User's Manual

FINA 320

600001390

Thank you very much for purchasing

- In order to use the machine correctly and safely and understand this product's capability, please read this manual carefully.
- The manual includes equipment structure, description, technical parameters, operation manual, safety information, application of software, etc.
- This manual is subject to change without notice.
- Contents herein contained are believed to be correct, however, please contact us if you find any error or something not clear enough.

December, 2006

Version 1.0

Chapter 1 Safety Information

Before use your FIAN 320 Printer, Please read following safety information. Pay attention to the cautions on the Printer.

1.1 Safety Cautions

Install over-current and over-voltage protecting facility for printer power. Failure to follow this guide could result in electric shock, personnel injury and fire.

Clean the ink channels with solution matching to the used ink. Failure to follow this guide could result in filter clog and ink channel blockage.

Besides the ground-line for power, another unattached ground-line should be connected outdoor. Failure to follow this guide could result in abnormal work status of printer.

Static prevent facility should be settled on the carpet or in dry climate. Failure to follow this guide could result in print head or other parts damage on the printer.

Waiting for 10 minutes at least after power off before the operation of transportation, connection and printer test. Failure to follow this guide could result in electric shock.

Printer should be settled on flat floor and be adjusted horizontally. Failure to follow this guide could reduce the print resolution.

Clean the print head and ink channel with solution after long-time printing. Failure to follow this guide could result in print head damage and ink channel clog.

Never put hands on printer while the printer is working. Failure to follow this guide could result in hand crushing.

Never put hands into the heating board while the board is heating. Failure to follow this guide could result in hand scald.

Never put hands on rotating rollers while the printer is working. Failure to follow this guide could result in hand crushing.

Don't open the electric tank in normal condition. Failure to follow this guide could result in electric shock.

1.2 Important Safety Information

● Do not block the hole on the cover.

● Do not insert any object into the Printer groove. Don't let any kind of liquid splash into Printer.

● Only use the power supply according to the label. You may choose either AC 110V or 220V for different countries and regions.

● Connect all the equipment to a proper-grounded socket. Avoid the socket in the same circuit with copy machine or air conditioner.

● Avoid to using the socket controlled by the wall switch or by auto timer.

● Please keep Printer away from the latent source of electromagnetic disturbance like loudspeaker or wireless phone.

● Do not use damaged Electrical Power wire.

● If you use additional cable, please make sure that total amperage of the equipment connecting with cable shall not exceed the amperage of the power supply. Moreover, the amperage of all equipment connecting with wall socket does not exceed the amperage of the wall socket.

Do not repair Printer by yourself.

● Shut off the power and ask experienced technician for help, if the following situations occur:

■ Power cable or plug is damaged.

■ Liquid splashes into printer.

■ Printer falls down or broken.

Printer cannot work properly or change in property.

1.3 Caution When Using Printer

- Don't use your hand to move print head; otherwise the printer will be damaged.
- Always use power switch to turn On/off the printer. Before shutting down the Printer, do not pull out Power Supply wire or Data Wire.
- Before moving the printer, please make sure the print head is fixed at original position.

1.4 Guide When Using Ink Cartridge

- Keep ink away from children. Do not let the children drink or touch.
- If ink spills on the skin, please wash with soap and water. If ink splashes into eye, please wash with water immediately
- Do not shake the ink cartridge in case ink leak is caused.
- After using for a certain period (generally 3 months), you should take off the ink cartridge, clean it and dry it.

1.5 Choosing Printer Installation Place

- Put printer at a horizontal and stable place with enough space; otherwise, the Printer may not work properly.
- Don't leave Printer at a place where temperature and humidity change severely. Avoid direct sunlight, strong light or heat.
- Avoid shaking or vibrating.
- Keep sufficient room around printer for air circulation.
- Place printer nearby the wall socket, so that it is easy to connect or disconnect the power supply.

1.6 Warning, Caution and Attention

Warning

Users must obey in order to ensure personal safety.

Caution

Users must obey in order to protect the machine.

Attention

Contain some important and useful information about operation.

Chapter 2 Technical Parameters

Figure 2-1 Printer Outlook

Product Model	FINA320		
Print Technique	Xaar 126 piezo head, 12 heads inside		
Resolution	up to 1080dpi		
Color Quality	Photo effect		
Max Media Width	3300mm		
Max Printing Width	3250mm		
Min Printing Size	A4 or 210 mm		
Output (m²/h)		Middle Level	High Level
	180*360 dpi	37.5	39.1
	360*720dpi	18.8	19.6
	360*1080dpi	12.5	13.0
Display	LCD display with 8 key panel, self-diagnosis available		
Ink Type	Solvent-base ink C, M, Y, K		
Ink Suppl Mode	300 ml/min auto ink supply by electric pump, main tank 1000 ml/color		
Ink Inspection System	Auto/manual ink supply, low ink detector		
Printing Drive	Support many RIP drivers		
Operation Platforms	Multi-operation platforms (Window 2000, XP, etc.)		
Media Type	Flex, vinyl, window film, polyester, etc.		
Media Transmission	Roll media or sheet media (bigger than A4 or 210 mm)		
Media Processing	Auto feeding system, weight less than 60 kg/roll		
PH Height	2 mm-3 mm above media adjustable		
Pre-heater & Dry System	Front bedplates auto heating after turn on, the temperature on top is about 60 centigrade.		

Clamp	Manual adjustment media width
Print head Cleaning System	Auto positive pressure cleaning
Safety System	Inside safety lock with auto shutting down function
Print Interface	USB 2.0 interface (Window 2000 NT XP etc)
Noise	Printing status 70 dB/waiting status 40 dB (ISO 7779)
Printer Sizeincluding ink tank / Net Weight	L 4412 mm × W 875 mm × H 1,168 mm / 550 kg
Package Size / Weight	L 4700 mm × W 890 mm × H 1,420 mm / 720 kg
Input Voltage	AC 220V/50 HZ AC 110V/60 Hz optional
Voltag / Feeding and Cleaning System	AC 220V/50 HZ AC 110V/60 Hz optional
Power AC 220V applied	Control ≤ 3A Heating ≤ 5A Feeding cleaning ≤ 5A
Working Environment	Temperature: 20-30°C Humidity: 40-80%

The parameters above are subject to change without notice.

Chapter 3 Equipment Assembly and Adjustment

3.1 Assemble Printer

1 Please unfix all screws on the supporter.

2 Put the printer on supporter with sufficient manpower. Make sure the printer stable enough.

3 Install auto ink supply system on right side.

4 Please connect all power cables correctly.

5 Install main ink tank in right side ink supply box and connect each ink pipe with ink hole correctly.

Ink Pipe

Figure 3-1 Main Ink Tank

6 Install waste ink tank. Connect each waste ink pipe with waste ink tank on both sides of printer.
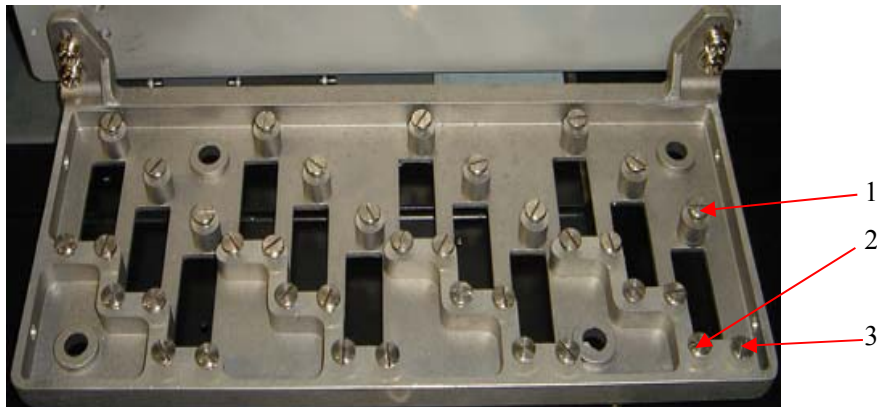
7 Install Xaar 126 head.

1

2

3

Figure 3-2 Print Head Frame

1— Top Screw

2— Left Screw

3— Right Screw

Method:

Loosen Up and Left Screw, then remove Right Screw

Insert Xaar print head 126 downwards

Put on Right Screw and tighten all three screws

Note:

After assembling the print head, clip cirques, which is prepared in spare parts tank, on the plugs of In and Out tube to prevent the plugs jumped out.

8. Connect print head with control board.

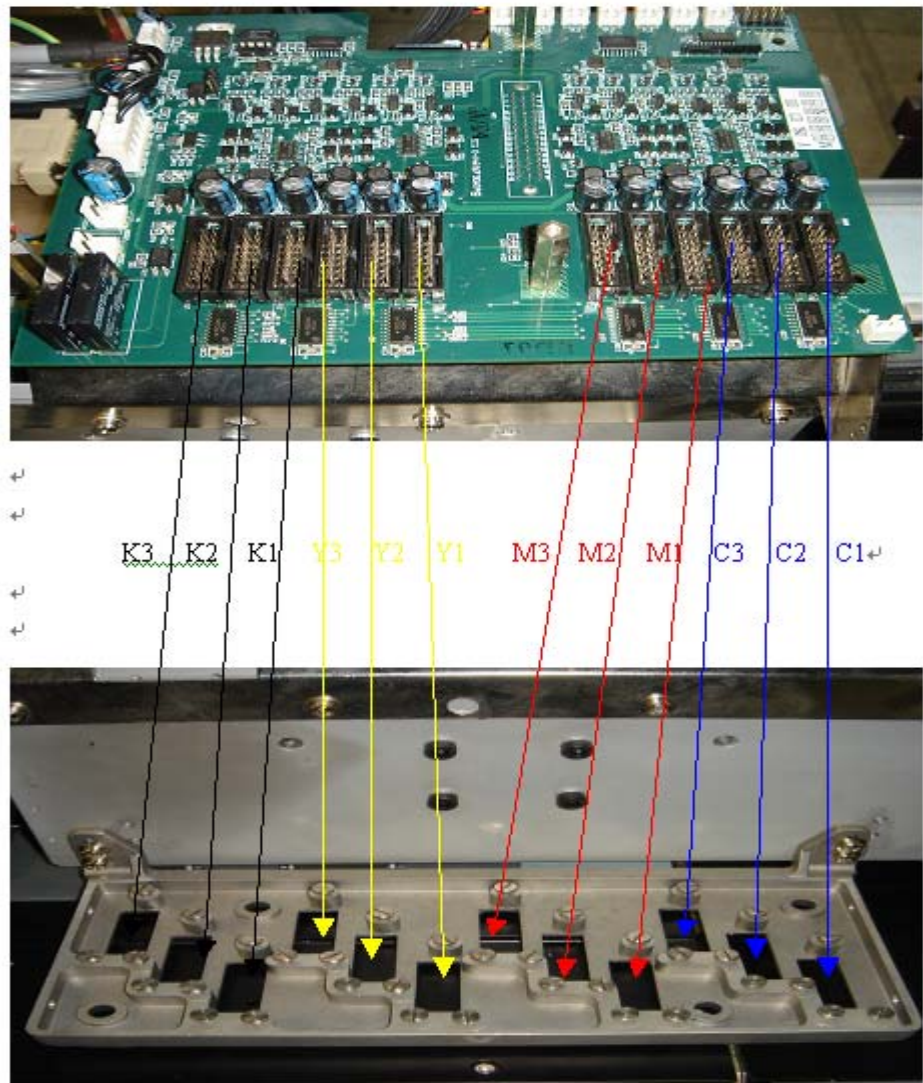Connection sequence as figure below:

Figure 3-3 Connection Sequence

3.2 Port of Printer USB 2.0

Installation

Connect the printer's USB port with computer's USB port directly by data cable.

USB driver procedure finishes automatically when Try Setup is installed.

3.3 Attention before Turning on Printer

1 In order to clean print head easily, please prepare following items:

- Flush solution
- Non-woven fabric.

2 In order to inspect temperature and humidity of printing environment, please prepare relative measurers. Requirement for environment:

- Temperature: 20C - 30C
- Humidity: 40% - 80%

3 Power supply

Please select for different countries or regions:

Control power supply: AC 100~240V 50/60 HZ

Heating, Feeding, Cleaning power supply: AC 100/240V   50/60 HZ (AC 100V optional

Please choose the type of power shown on the printer in case of damage to the printer.

- Make sure the printer is well grounded.
- It is better to use UPS stable-voltage power.

4 Requirement for computer

In order to avoid problems caused by computer, please choose high quality computer or brand computer.

3.4 Connect to Power

1 After all parts are installed, put the printer at the proper place. Removing carefully all the packaging materials like foam, adhesive tape.

2 Connect power cables and data cables. Power protective switch can only control heating power and it is at open status in normal condition (It's in the open status when far from red point).

3 After everything is ready, switch on power.

4 Load media.

5 Test to check if print head is good to print. If the test result is unsatisfactory, you should clean print head.

Chapter 4 Equipment Structure and Accessory
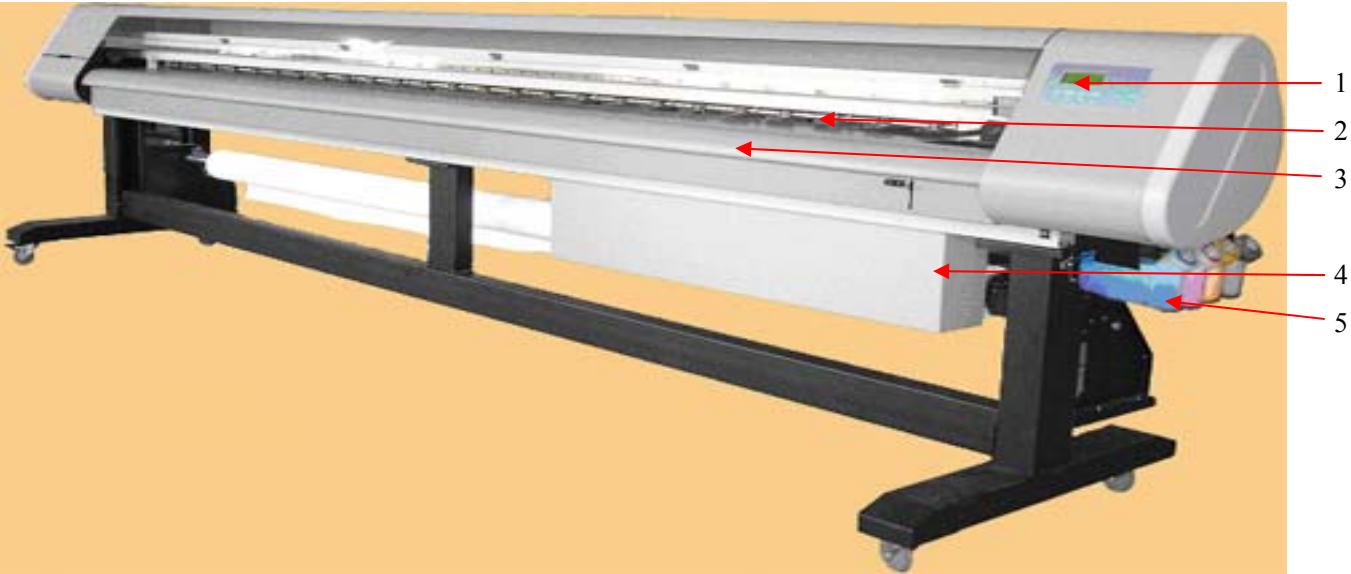
Main Structure of FINA 320:
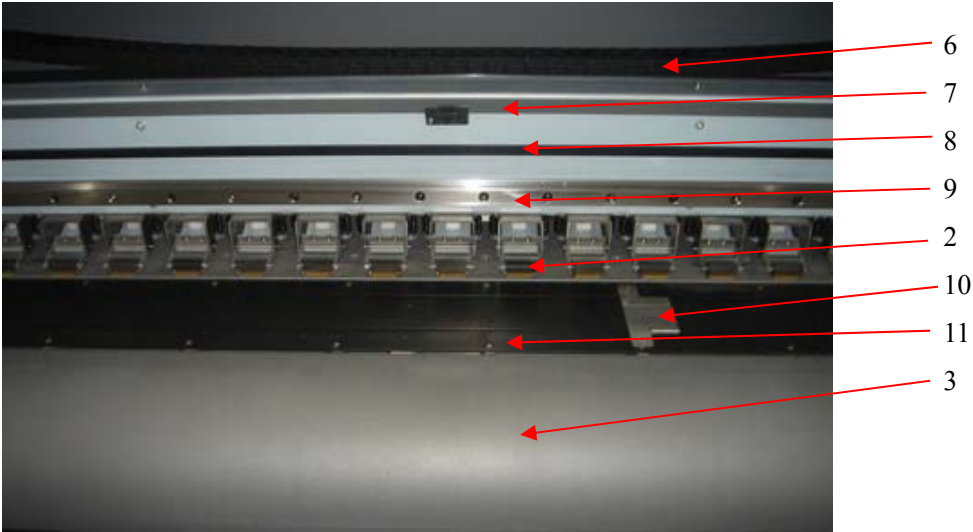

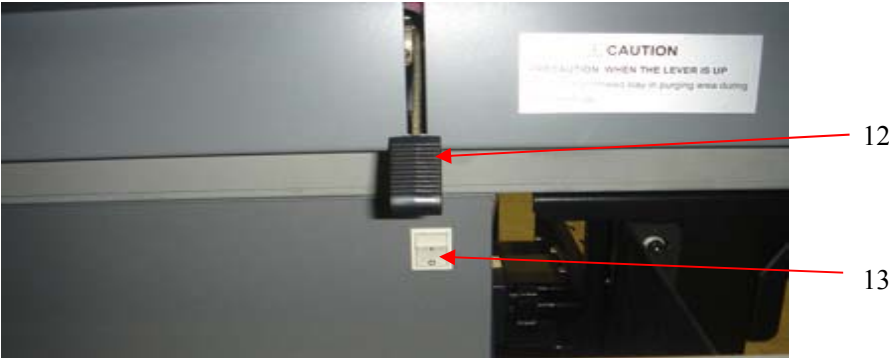Figure 4-1 Front View

Figure 4-2 Print Platform
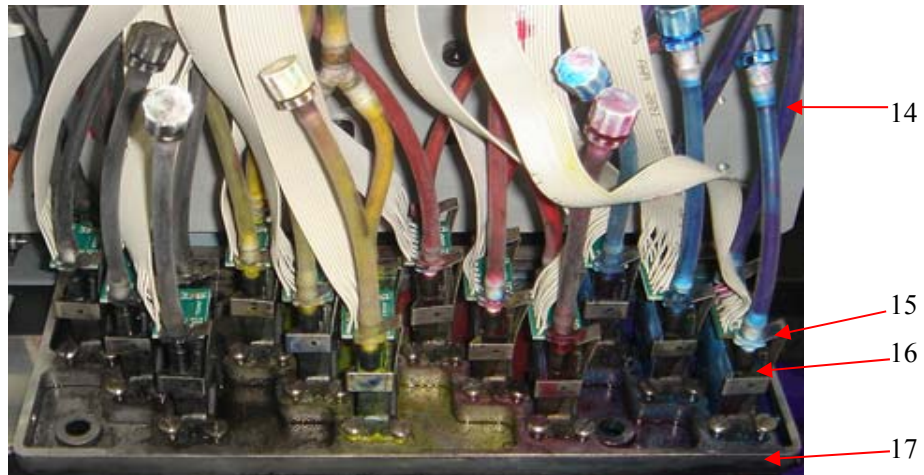

Figure 4-3 Pressing Rod

Figure 4-4 Print Head

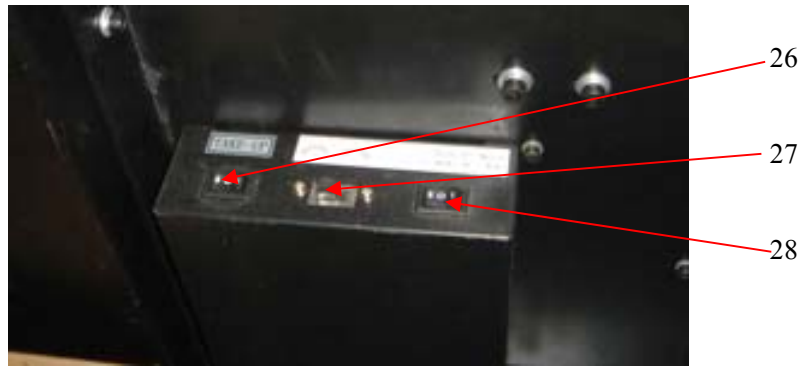Figure 4-5 Flash Ejection Print Frame

Figure 4-6 Feeding System

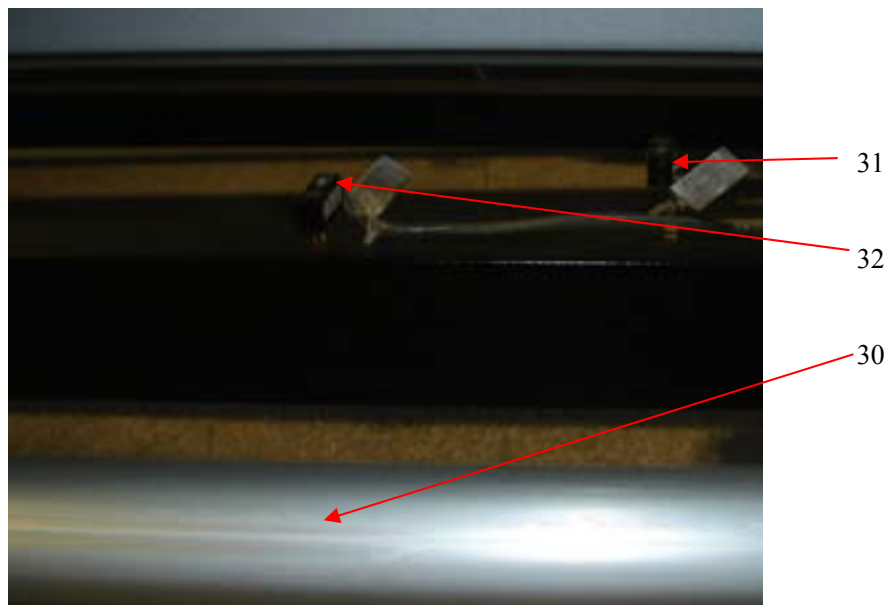Figure 4-7 Media Take-up System

Figure 4-8 Take-up, Feeding Roller Sensor
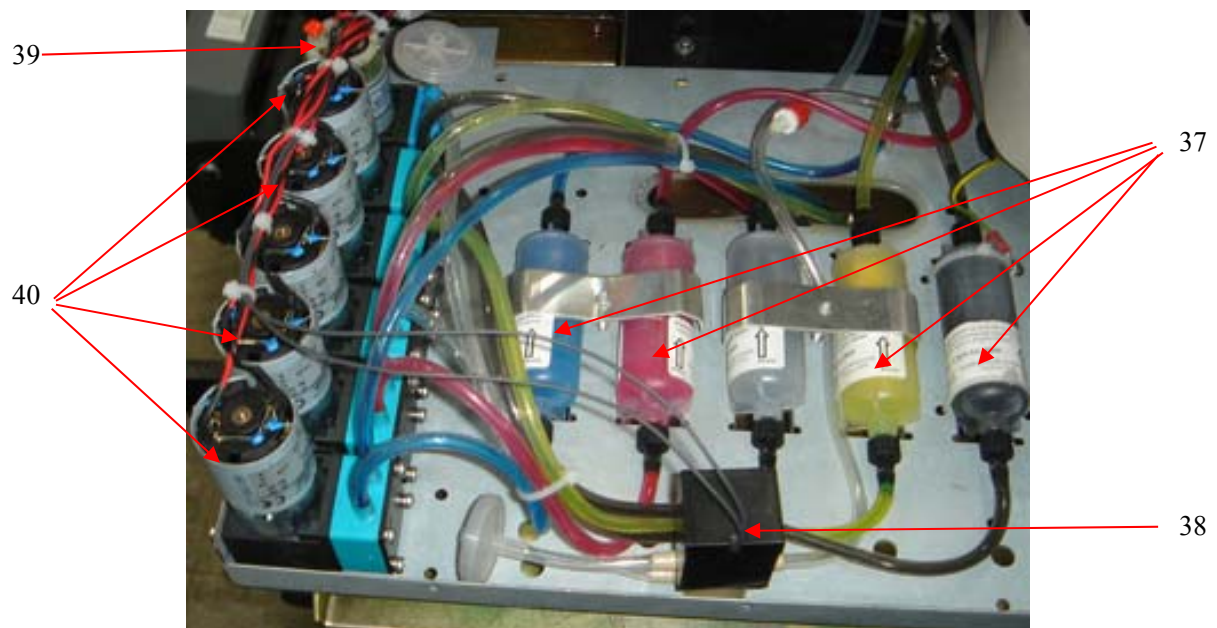
Figure 4-9 Power and Cable Socket

Figure 4-10 Ink Pumping, Filter and Valves

Figure 4-11 Assistant Ink Tanks

Figure 4-12 Lathe-head Electric Part

Figure 4-13 Dry System

Prate Descriptions:

1　LCD Panel: Setup and Operating Functions.

2　Pressing Wheel: Press media and make media smoothly.

3　Heating Platform: Heating print media, making ink dry quickly.

4　Electric tank: Used to settle circle board.

5　Main Ink tanks　Total C, M, Y, K 4 colors, 1000 ml/color

6　Chain: used to support ink pipe and power cable.

7　Y Grating Bar: Used to count the time of horizontal motions and ensure the precision of printing in Y direction.

8　Y Strap: Used to drive print head move horizontally.

9　Guide Bar: Track of print head motion.

10　Clamp　Manually adjust media width

11　Printing Board　Platform for printing.

12　Pressing Wheel Control Pole　Control pressing wheel up / down for media feeding.

13　Power Switch: power on/off the printer.

14　Ink Inlet　Ink floats in print head through it.

15　Circle Clip: Used to clip on the plugs of In and Out tube to prevent the plugs jumped out.

16　Print Head: Xaar126 piezoelectric print head.

17　Print Head Frame: Used to assemble print head on it.

18　Air Bells Blade: For print head negative pressure cleaning.

19　Waste Ink Groove　Collect the waste ink during cleaning.

20　Press Ink Button: For print head positive pressure cleaning.

21　Clean Button: For cleaning by flush solution.

22　Light Switch: Power on/off light

23　Roller: Make media smooth.

24　Feeding Roller Electromotor: Drive feeding roller.

25　Feeding Roller: Used to support media.

26　Media Take-up Manually/Automatically Switch: manually control or automatically control or shut down media feeding motor.

27　Feeding Roller Run Forward/Backward Switch: Control roller to run forward/backward.

28　Media Feeding Manually/Automatically Switch: manually control or automatically control or shut down media feeding motor.

29　Take-up Roller Electromotor: Drive take-up roller

30　Take-up Driving Roller: When take-up electromotor receives signal, it can take up media automatically.

31　Auto-feeding Roller Sensor: Control feeding roller electromotor when printing media is little.

32　Auto take-up Roller Sensor: Control take-up roller electromotor when printing media is little.

33　Print Cable Port: USB port or connect to data card in computer.

34　Heating Power Socket: connect with heating power

35   Heater Protective switch: prevent electric leakage of heating board

36   Power Socket: Supplying power to printer.

37   Ink Filter: Filtrate impurity in ink.

38   Electromagnetic Valve: Automatically control the air route

39   Air pump: Compress air as positive cleaning the print head.

40   Ink Pump: Provide ink to sub ink tank

41   Sub ink tank: Store ink and supply to print head.

42   Safety tank: Store air. Prevent ink leak out while float switch inside sub ink tank is broken.

43   Tube Clamp: cut air

44   Print Head Drive Board: Drive print head.

45   Main Board: Control print head.

46   Dry System: Make the ink printed on media dry quickly.

Chapter 5 Usage and Maintains of print head

5.1 Usage of Xaar 126 Print Head

1   Print Head

2   Ink Inlet

3   Ink Outlet

4   Cap

5   F Pipe Connection

Figure 5-1 Print Head

1. Flush liquid out of the print head

For print head protecting, lots of liquid is injected into the print head before it is used. The liquid must be flushed out for the first time using. Before fixing the print head on the print head frame, operate as follows: joint a filter on the In-tube of the print head, and then joint an injector--which fills with flush solution--on the filter. Inject 30 ml flush solution into the print head to eject the liquid inside. Then fill full the print head with flush solution for complete dissolving within 5-10 minutes. Finally, flush the print head with about 30ml flush solution to eliminate the liquid completely. If you find the printing line is not linear, flush the print head again.

Make sure to operate on a stable and clean platform.

Cautions:

Clean platform for convenient operation;

Don't touch the surface of head and socket with hand;

Clean the filter with flush solution;

Connect a tube on the exit of the head to prevent ink flowing into the socket;

Don't touch the surface of head with other objects;

Be careful to distinguish In tube and Out tube of the head;

Eject flush solution from the nozzles with strength no more than 0.3 kg. (It is better to hold the injector with single hand and push it with the same thumb.)

2. Extrude air from the print head

After fixing the head on the head frame (be cautious of the in tube and out tube). Remove the Cap from the Out tube; positive-pressure clean to fill the head with ink till ink streams out from nozzles. During the process air is extruded completely from the head.

3. Moisturize print head surface

After extruding air from the head, cover the Cap on the Out tube. Positive-pressure clean again until ink streams out of the nozzles, then scrub the head surface with a dry clean stick to form a protecting layer of ink on the head surface. The ink on the surface will stream into the nozzles because of negative pressure.

4. Test printing

Design some color blocks as 20 x 20 cm with some image operating software, and set color luminance as 100%, 50% and 10%. Print the color blocks under test mode and check the print result. If the print result is normal which means no ink-break and no ink spots on the mediums, the printer can work normally.

Figure 5-2 Color Blocks for Test Printing

5.2 Cleanness and maintenance of the print head

1. Ink replacing

Flush the print head with the original ink first, and then flush it again with new flush solution, which matchs the new ink. 1. Ink replacing

Flush the print head with the original ink first, and then flush it again with new flush solution, which matchs the new ink.

2. Print head cleaning

If low quality printing takes place, a positive-pressure cleaning is proper for the head. After positive pressure cleaning, scrub the head surface with a dry clean stick to stop ink streaming from the nozzles. Be sure not to use a stick with flush solution to scrub the head surface, otherwise, the flush solution will be siphoned into the nozzles.

3. Moisturize print head

Use wet keeping frame to moisturize the head if the printers is left unused. Put a clean non-woven fabric on the sponge of wet keeping frame and drop some flush solution on it because the sponge usually has dust on it. If no wet keeping frame, adhere a clean non-woven fabric with some flush solution on the print head and wrap it with a fresh keeping polyester film.

Chapter 6 Basic Panel Operation

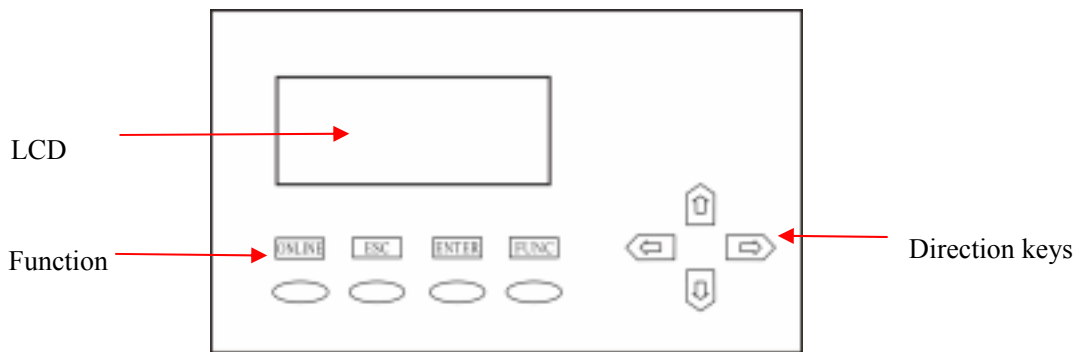## 6.1 Menu Structure of Control Panel

Figure 6-1 Control Panel

6.1.1 Function Keys

1. Direction (Arrow) Key

 1) Operation on Panel:

  ⇧ ⇩ Keys are used to move menu to select functions and change value.

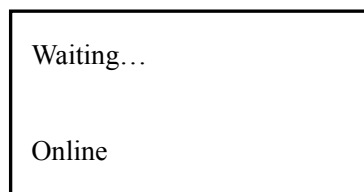 ⇦⇨ Keys are used to move location of cursor when change value.

 2) Operation under Standby State:

  ⇧ ⇩ Keys used to move media forward or backward.

  ⇦⇨ Keys used to move print head to cleaning location or back.

2. Function Key

 1) ONLINE Switch between online and offline mode; Press for some seconds for a pause when printing.

 2) ESC Back to the upper menu

 3) ENTER Confirm the command and execute it

 4) FUNC Switch to special function; In standby state, press FUNC+⇦ key to print test bar.

3. Basic Operation

After turning on printer, Y motor self-tests first and then X motor, print head self-test.

```
Booting          >System
                 >Y Motor
V1.13            >X Motor
Check         —>Print head
```

After the self-test, carriage goes back to the original position. You will see the following information

displayed on the LCD screen:

- Mark /// *INFINITI* with machine model

- Version

- Then back to basic operation menu.

The machine is in normal conditions if shown as below.

```
MENU    |  1. Ink Status        +
        |  2. Heat Status       +
        |  3. Cleaning Tool     +
OFFLINE |  4. Print para        +
```

6.1.2 Menu Description in Details

"+" stands for containing submenu. "– " stands for containing no submenu.

In this case, press ⇧/⇩ key to circularly display these six menus up and down. Main menu contains:

```
—>  1. Ink Status      +          Ink Supply State
    2. Heat Status     +          Heating State
    3. Cleaning Tool   +          Cleaning Tool
    4. Print para      +          Print Parameter Set
    5. Application     +          Application Set
    6. Engineer Set    +          Factory Set
```

Press FUNC+⇦ keys to print test bar.

When" >"points to "1. Ink Status", press ENTER, then the LCD will display as below:

MENU	Ink Status
M1	Ch A C M Y K c m
	Rn _ _ _ _ _ _ _
OFFINE	Al _ _ _ _ _ _ _

"M1" stands for the submenu of the first main menu.

In this case, press **ESC** key, and it will go back to main menu.

Press ⇧/⇩ keys to circularly display sub menu. When there's a "–" after the menu arrow (that is the first line on menu), press **ENTER** key to execute operation. Press **ESC** key to exit.

6.2 **Function Description in Details**

Main Menu	Submenu	Description
1. Ink Status	Ink Status Ch A C M Y K c m Rn _ _ _ _ _ _ _ Al _ _ _ _ _ _	Press ENTER key, the LCD will display as below: | Menu	Ink Status
	Ch A C M Y K c m
	Rn _ _ _ _ _ _ _
Offline	Al _ _ _ _ _ _ _	 Item **Ch**: stands for ink channels. A means all channels; Item **Rn**: displays ink supply status of corresponding channel; Item **AL**: displays ink lack alarming of corresponding channel; Press **ENTER** to refill ink and cancel alarming. **For 4 colors and 12 print heads supplying ink in this printer, one of "C, M, Y, K" on the LCD flashes in low ink status and "A, c, m" keep still.**
2. Heat Status	Heat Status FH Pre P/H Tem 00 00 00 Set 00 00 00	The LCD display details as below: | Menu	Heat Status
	FH Pre P/H
	Tem 26 00 00
Offline	Set 25 25 25	 Item **Tem**: displays actual temperature; Item **Set**: displays setup temperature. **For this machine has no print head heater, so the temperature of print head is 0.**
3. Cleaning Tool	Firing	Press ENTER key to execute the operation, "**Busy**" flashes on the LCD. P/Hs spray downward to prevent nozzle clogs. The LCD stops flashing after firing finishes. Press **ENTER** key again to execute P/H firing one more time if necessary. The volume of ink fired should be set in submenu **Firing Vol** under menu **Print Para**.
	Jam Test	Press **ENTER** key to execute the operation of test printing.
	Clean POS	Press **ENTER** key to execute the operation of moving P/H carriage to cleaning position.

	Home Post	Press **ENTER** key execute the operation of returning the P/H carriage to original position.
	Auto Clean	Press **ENTER** key to execute the operation of moving P/H carriage to the machine's left side for auto cleaning. **For no negative pressure vacuum in this printer, it's no use in this function.**
4. Print Para	Print Post	The LCD display details as below: Menu ┊ Print Pos. (mm) Offline ┊ 0200 Number string "XXXX" flashed on the LCD. Here press ⇦ and ⇨ key to move the cursor position over the number string and press ⇧ or ⇩ key to increase or reduce the value of the flashing number. Press **ENTER** to save the number as print position. Images and test print start from this position. Here press key combination **FUNC** + ⇧ or ⇩ key to move the media forward or backward to the position you need, then press **ENTER**.
	Bi-dir. Adj	The LCD display details as below: Menu ┊ 2. Bi-dir. Adj. Offline ┊ 0050 This function is used to adjust bi-direction printing to ensure bi-direction printing quality.

	Print Speed	This function is used to adjust the scan speed of the P/H carriage. The LCD displays details as below: Menu 3. Print Speed Offline Norm Press ⇧ or ⇩ key to select from the 3 options. **High** scan speed will reduce printing quality. **Low** scan speed will increase printing quality but reduce printing speed. The suggestion is **Norm**.
	Feed Speed	The LCD displays details similar to Print speed. "**Norm**" flashes as the default option. Press ⇧ or ⇩ key to select from the 3 options. The suggestion is "**Norm**".
	Firing Vol	The LCD displays details as below: Menu 5. Firing Vol Offline 0020 "XXXX" flashes on the LCD. Press⇧ or ⇩ key to adjust the value. This value is the firing volume of P/Hs for printing after cleaning and the firing volume of auto spray when using M4 menu. The default is 20.

	Flash Mode	Numbers are used for flash mode setup: **0** stands for P/H does not flash during printing; **1 ~ 9** stands for P/H flashes once during printing 1 Pass; <table><tr><td>Menu</td><td>6 Flash Mode</td></tr><tr><td>Offline</td><td>0009</td></tr></table> When the value is 1 to 9, it stands for pint head flashing; when the value is above 9, the print head moves to cleaning position automatically for negative pressure cleaning <table><tr><td>Menu</td><td>6 Firing Vol</td></tr><tr><td>Offline</td><td>0010</td></tr></table> **10** stands for print head negative pressure cleaning when printing 10 Pass;…… The biggest value can reach to 300. **For no negative pressure vacuum in this printer, it's no use in this function.**

		The LCD displays details as below:
| | PH Volt. Set | ```
Menu      PH    1 Voltage
          PH    2 Voltage
          PH    3 Voltage
          PH    4 Voltage
          PH    5 Voltage
          PH    6 Voltage
          PH    7 Voltage
          PH    8 Voltage
          PH    9 Voltage
          PH    10 Voltage
Offline   PH    11 Voltage
          PH    12 Voltage
```<br><br>In this printer, print head 1, 2, 3 stand for C color print head;<br><br>print head 4, 5, 6 stand for M color print head;<br><br>print head 7, 8, 9 stand for Y color print head;<br><br>print head 10, 11, 12 stand for K color print head.<br><br>   Go on pressing **ENTER,** the LCD shows:<br><br>```
Menu      1 PH   1 Voltage
                    0095
Offline             0235
```<br><br>The upper numbers stands for the setup EF value 0.95 of C color print head. And the nether numbers stands for the real voltage value 23.5V of C color print head.<br>Here press ⇧ and ⇩ key to scroll the submenu. Then press **ENTER** key to change the PH1 voltage value. The method of changing other PHs voltage is the same as upper. |
| **5. Application** | UV Lamp Power | **There is no use for this printer.** |
| | Front Heater | Used for setup temperature of front bedplate. "XXXX" flashes on the LCD. Press ⇧ or ⇩ key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is. The highest temperature can reach to 65°C. |

	Pre Heater	"XXXX" flashes on the LCD. Press ⇧ or ⇩ key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is. **For only one sensor detecting the front and rear bedplates temperatures, so user cannot set up the pre-heat temperature in LCD.**
	PH Heater	The LCD displays details as below: <table><tr><td>Menu</td><td>PH Temp (°C)</td></tr><tr><td>Offline</td><td>0045</td></tr></table> Used for controlling print head temperature in printing. LCD shows as the upper chart. "XXXX" flashes on the LCD. Press ⇧ or ⇩ key to increase or reduce the value of temperature. And the bigger value is, the higher temperature is. **For no PH heating pipe in this printer, it's no use in this function.**
	Media Detect	Press **ENTER** to execute the operation, the LCD displays OFF means the function is switch off when the printer is waiting. **OFF** function switch off Press ⇧ or ⇩ key to switch on the function. **ON** function switch on Pull up the press pole and then pull it down, the LCD displays <table><tr><td>Menu</td><td>Media Detect</td></tr><tr><td>Warn2</td><td>Star:0000mm</td></tr><tr><td>Lenth:0000mm</td><td></td></tr><tr><td>Offline</td><td></td></tr></table> details as below: Press **ENTER** key to start media edge detecting. Press ESC to cancel the operation. After detecting, "**OK**" displays means the detecting is successful and saves the result as print position, which should add the value of offset set at below step. "**Error**" displays means the detecting is failed and the value of print position does not change. **There is no selvedge sensor in this printer; therefore, it's no use in this function.**

	Media Offset	"XXXX" flashes on the LCD. Press ⇧ or ⇩ key to increase or reduce the value. This value added to the value of media detecting is saved as the value of print position. **This function is null for the printer.**
	Take-up Detect	**This function is null for the printer.**
	T Neg. Pressure	Set negative pressure to hold ink in the print head stably at idle time. The value is between –1.3 and –1.4. **For no negative pressure adjusted system in this printer, it's not necessary to be set.**
	UV Lamp CHK	**This function is null for the printer.**

	Curve of ink	Select ink curves and ink curves shows relations between voltage and temperature.
		
		<table><tr><td>Menu
		Curve
		
		016</td><td>9. Ink
		
		        0</td></tr></table>
		LCD displays details as below:
		
		‾‾‾ ‾ ‾ ‾‾‾‾
		 1 2 3 4
		
		The name of ink curve indicates as below
		
		1 **SK**: Stands for **SKIEO** print head;
		   Xr: Stands for **Xaar** print head;
		   Sp: Stands for **Spectra** print head.
		
		2 **2** Stands for 200 dpi print head
		   3 Stands for 300 dpi print head.
		
		3 **S** Stands for solvent based ink type
		   O Stands for oil based ink type
		   U Stands for UV ink type.
		
		4 ink name
		
		The ink curves are different with different ink types. For using Xaar print head and solvent ink in this printer, so the ink curve showing on the LCD lists as upper.

6. Engineer Set	Clean Post	Set the distance from original position to cleaning position. P/H moves to cleaning position for negative pressure cleaning. (It's only used by the technician.)
	Printer Width	Set the biggest distance in scanning direction It's only used by the technician.
	Moving Test	Press **ENTER** to execute the operation. The LCD displays details as below: <table><tr><td>Menu</td><td>Moving Test</td></tr><tr><td>Offline</td><td>0000</td></tr></table> It is simulant printing state, the printer dose not jet ink. Mainly used for approximate test. The number below means the times of trip of the printer.
	Default Set	Resume the default parameters. Press FUNC+ENTER to execute. only for engineer's using
	Y Test Speed	Used to test the max printing speed of Y axis. only for engineer's using
	X Test Speed	Used to test the max moving speed of X axis. only for engineer's using

EF value setup

Each Xaar126 head has its own EF value. Manufacture always provides a standard EF value, which is captured under standard condition. Users input this value at column Voltage. Usually, the printing effect is good. The value is marked on the head. It is also saved in the chip of print head driver. User can download it directly.

If the voltage is too high, it produces the satellites and ink supply is easy to break   If the voltage is too low, the printing line is not straight and easy to have an angle. Besides, ink volume is small and output color is light. Therefore, every head has its optimal EF value. When adjusting, you can adjust the EF value one by one. Usually user needn't to adjust EF value.
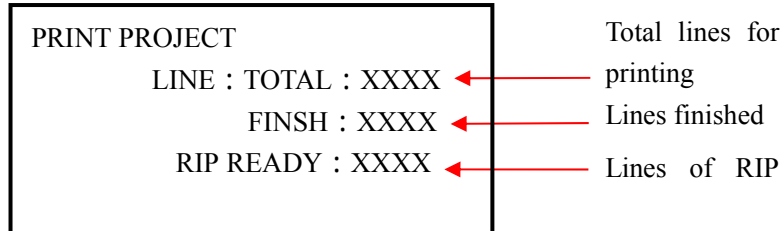
Note:

When install print head, select the 2 with same or similar EF value for 1 color, or it will cause different color of front and rear print heads.

6.3 Menu in Usage

6.3.1 Displays on LCD in printing

LCD displays as below

```
┌─────────────────────────────────┐        Total  lines  for
│ PRINT PROJECT                   │        printing
│         LINE   TOTAL   XXXX ◄──────────
│                 FINSH   XXXX ◄──────────  Lines finished
│         RIP READY   XXXX ◄──────────  Lines   of   RIP
│                                 │
└─────────────────────────────────┘
```

The LCD displays total lines for printing, lines finished and lines of RIP ready during printing.

6.3.2 Displays on LCD in Pause

If there is jam in printing, press ONLINE key, "Busy" will displayed, then pause print (the operation is usable only when printer is printing back to original position), LCD will display as below:

```
┌─────────────────────────────────┐
│ Waiting  │  1.Ink status      + │
│          │  2.Heat status     + │
│          │  3.Cleaning tool   + │
│          │  4.Continuous      - │
│ Online   │   5.Cancel         - │
│          │                     │
└─────────────────────────────────┘
```

Now press ⇧ ⇩ keys to clean print head. After cleaning, press **Continuous** key to continue printing or press ⇧ ⇩ keys to cancel printing.

6.3.3 Displays on LCD after Printing

```
┌─────────────────────────────┐
│                             │
│  Waiting…                   │
│                             │
│  Online                     │
│                             │
└─────────────────────────────┘
```

6.3.4 Warning and Error Displays

Warning

- Warn1   UV lamp is not ready

    Note: This printer has no this function.

- Warn2   Press rob has not be pressed down.

1   Warn3   System is supplying ink.

Error

When one of the errors listed below occurs during printing, the printer will run normally but give alarm

for warning

Err5   Ink refill overtime

Err6   The safety bottle is full

Err7   For solvent based printer   The waste ink bottle is full

For UV printer   The safety bottle in manometer is full

Err8   Null

Errors listed below indicate the detail for further check when self test fails

Err9   Y raster count direction differs from motion direction

Err10   Y raster signal is NOT detected

Err11   Y raster error too big

Err12   Reverse count abnormal

Err13   Self test for main board failed

Err14   Version of assistant board NOT matches main board

6.4 **Printing Steps**

On normal condition, the steps are as follows:

1. Power on printer.

2. Turn on computer.

Note   It is recommended to power on the printer first. Otherwise the connection may fail.

3. Install media, put down the press rob to press on media.

4. Clean the head and start the self-diagnosis till no nozzle clogging.

5. Press ONLINE to online the printer, then LCD will display ONLINE.

Menu	1. Ink Status	+
	2. Heat Status	+
	3. Cleaning Tool	+
Offline	4. Print para	+

Waiting…

Online

Figure   Offline Mode   Figure   Online Mode

Figure 6-2 Offline/Online Mode

6. Trim the pattern for printing, and save it in computer.

7. Open INFINITI RIP.

8. Create new print file.

9. Load the pattern for printing.

10. Adjust the position, size, property, resolution of the pattern.

11. Printer setup

1) Select File/Printer setup. Below dialogue figure shows:

2) Select the type of printer.

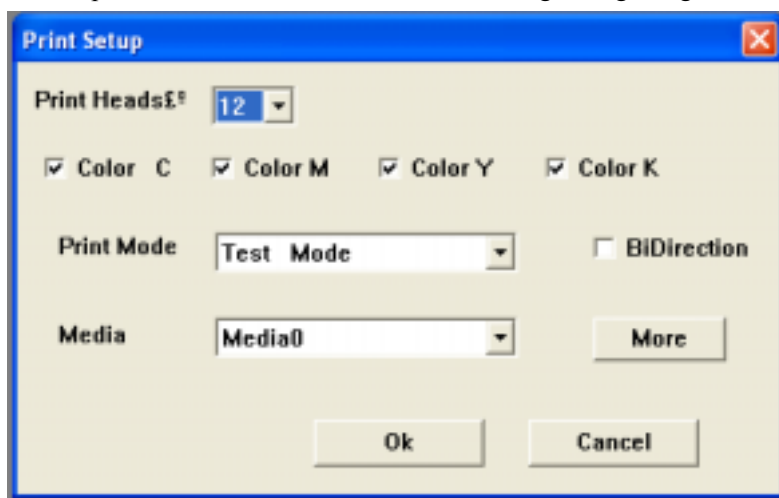3) Click the "Printer setup". Set the relevant value in the following dialogue figure.

Figure 6-3 Print Setup

a. Select print head quantity by fact instance.

b. Select the printing resolution.

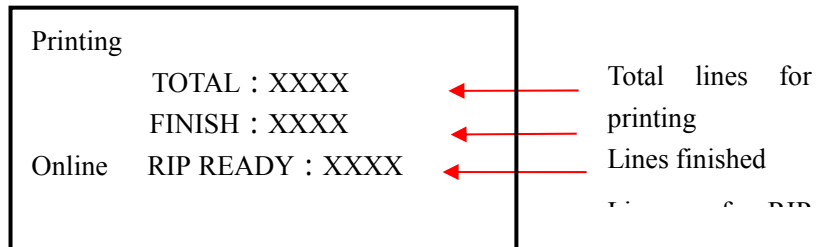c. Select BID or single direction printing. BID has higher efficiency than single direction.

4) Click"color tune"to activate following dialogue box.

Note:

Details of the functions above and others referred to the *RIP Manual*.

12. Click "Printing Project" to print.

13. LCD displays as below when printing:

```
┌─────────────────────────────────┐
│ Printing                        │
│         TOTAL   XXXX    ←────────│──── Total lines for
│         FINISH  XXXX    ←────────│──── printing
│ Online  RIP READY  XXXX ←────────│──── Lines finished
│                                 │
└─────────────────────────────────┘
```

The LCD displays total lines for printing, lines finished and lines of RIP ready during printing.

14. If clogging appears during the printing press ONLINE for a longer time (3s) to pause printing for print head cleaning. After cleaning, press ONLINE to go on printing.

Cleaning procedure during printing:

P/H nozzles may be clogged during printing, so it needs cleaning.

Press and hold ONLINE key to pause the printing. And press the positive pressure cleaning button near the original position for positive pressure cleaning. After accomplishing cleaning 5 or 10 minutes later, select "continue printing" in menu. Or select "Auto cleaning" in controlling panel menu to return to printing work.

15. Press ONLINE when the printing is all finished. Then the printer is under the Offline mode.

Note:
To cancel printing operation, usually do in RIP. If you want to cancel printing directly on the printer, press ONLINE button after the menu "printing cancel" appears in software.

Note:
For other printing operation in RIP software, please view "RIP Manual".

Chapter 7 Description of Ink Supply Compositive Assistant Board

7.1 Ink Supplying and Cleaning System

Ink supplying, cleaning systems contain print heads, main tanks, sub tanks, ink pump and filter.
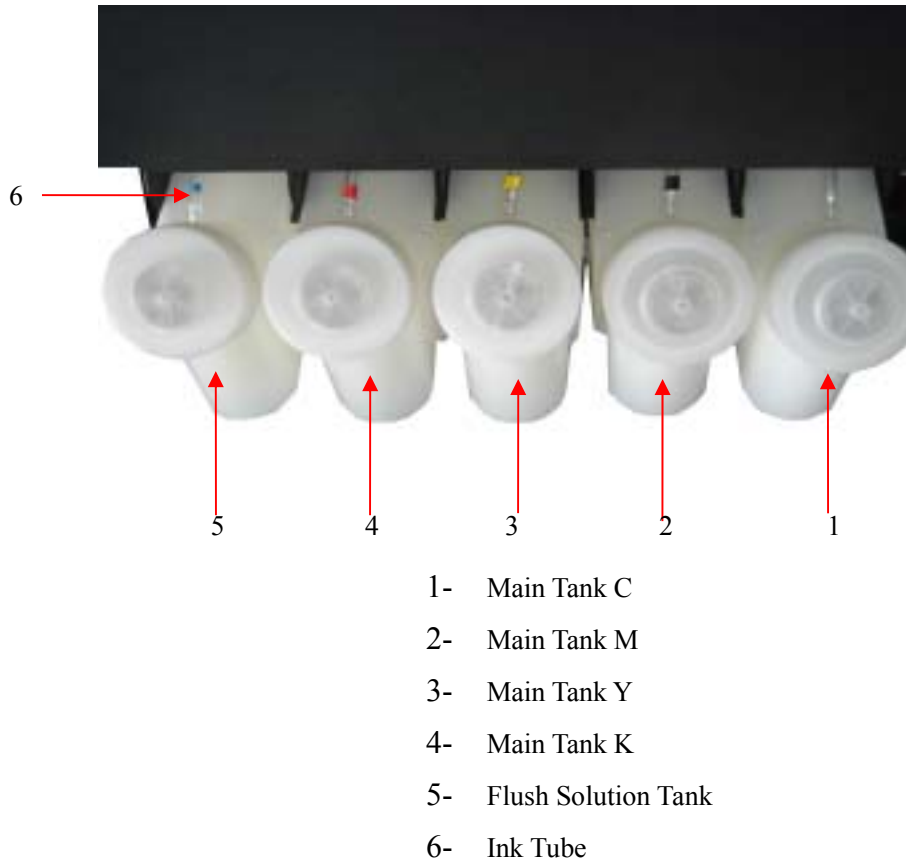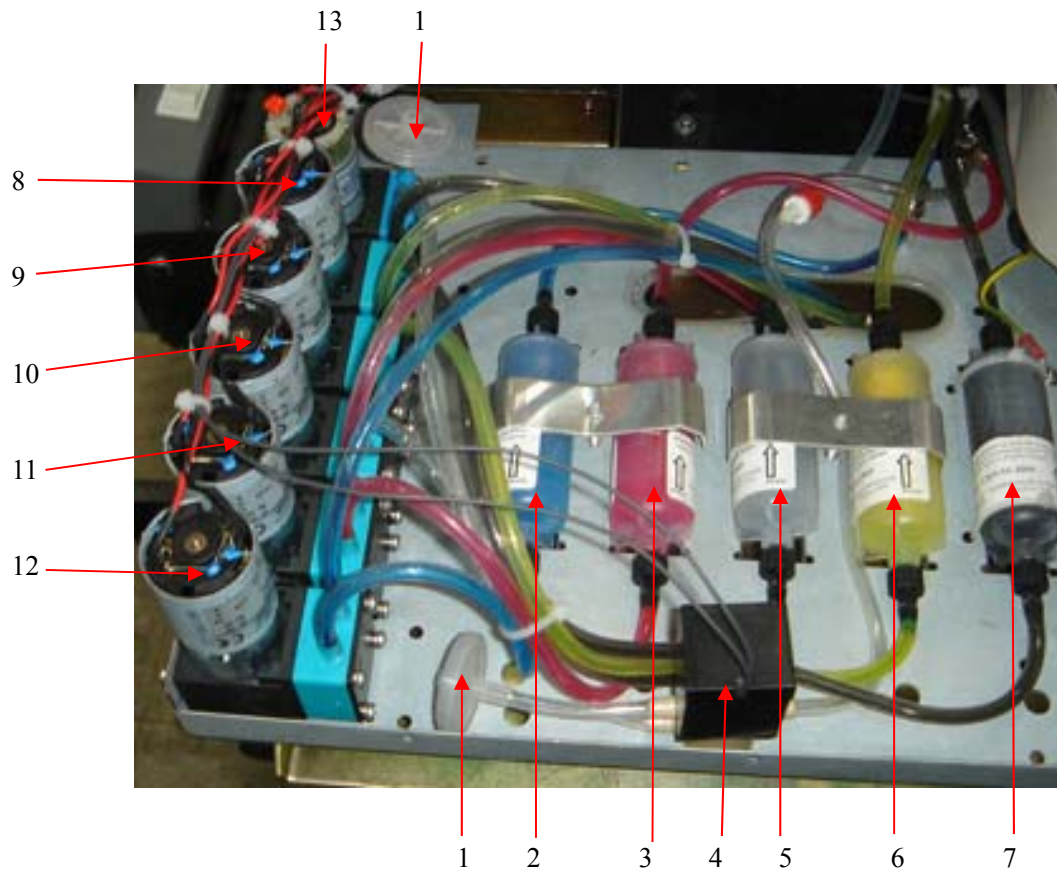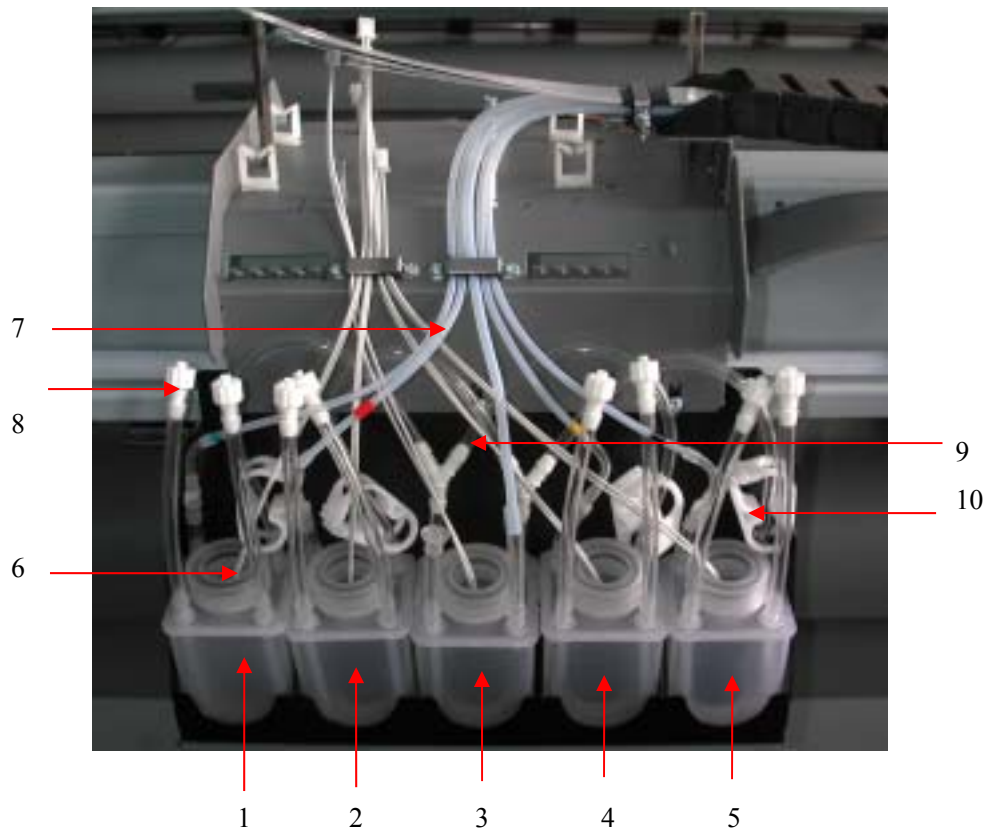

1-   Main Tank C

2-   Main Tank M

3-   Main Tank Y

4-   Main Tank K

5-   Flush Solution Tank

6-   Ink Tube

Figure 7-1 Main Ink Tanks

Figure 7-2 Pumps and Filters

1- Air Filter

2- C Filter

3- M Filter

4- Electromagnetic Valve

5- Flush Solution Filter

6- Y Filter

7- K Filter

8- K Pump

9- Y Pump

10- Flush Solution Pump

11- M Pump

12- C Pump

13- Air Pump

1- Sub Tank C

2- Sub Tank M

3- Safety Tank

4- Sub Tank Y

5- Sub Tank K

6- Floating Switch (in sub-tank)

7- Ink in Tube

8- Ink out Tube

9- Air Tube

10- Clamp

Chart 7-3 Assistant ink tanks

1	Ink Inlet
2	Air outlet
3	Data Lines
4	Tube Clamp
5	Xaar126 PH
6	Screw
7	Print head board

Chart 7-4 Print head

7.2 Function and Operation Panel of Compositive Assistant Board

Compositive assistant board has functions of ink supplying, cleaning, and heating. Users operate the ink supplying cleaning to control the functions. Below is the picture of board:

Figure 7-5 Compositive Assistant Board

Users may operate on the operation panel to execute functions.

1- Cleaning Button

2- Ink Pressing Button

3- Light Switch

Figure 7-6 Ink Supplying and Cleaning Buttons

Ink supplying cleaning frame is connected with compositive assistant board by cables. The time that pressing cleaning button controls cleaning time.

Chapter 8 Ink Supplying System

8.1 Summary

This ink supply system can control automatically several pumps at the same time. And it has perfect interface. It can adjust ink supply pressure and provides protect function.

8.2 System Diagram

Figure 8-1 Ink Supply System Diagram

8.3 Function Description

1. This system work automatically and control several pumps to supply ink simultaneously. When printer is power on, ink pump starts automatically to pump ink to assistant ink tanks from main ink tanks.

2. With perfect alarm and protection function. If any problem occurred in any pump, it will alarm and indicate which one is in trouble and the troubled one will not affect others.

3. Ink filter switches get signals through serial ports.

4. It is easy to connect it to other systems. All floating switches signals can be input by serial port or parallel port.

5. Main controller consists of micro CPU, which can check signals using software to filter out the false ones, which is helpful to make system work more reliably.

6. The ink-pumping limit is controlled by intelligent control system of main control board; in case that the electric circuit will cause ink supply shortage.

8.4 Operation Description

Note: Please read descriptions carefully for ink supply system, cleaning system and Ink Control system before starting the following operations.

- As soon as the printer's connected with power, system detects floating switch signal automatically, and then ink will be filled into sub-tank.

- When ink channel lacks of ink, system will start the pump automatically; and indicator lighten. After the floating switch senses the ink, the pump will continue to work for a little period and then stop; and the indicator light extinguishes.

- When ink in assistant tanks is used out or other reasons cause some pump running overtime, the system will alarm (voice a straight buzz) and force to stop the pump automatically. Press "restore" button on cleaning operation board to cancel the alarm, and system goes back to auto-ink-supply process.

- When waste ink tank is full, system will alarm as intermission buzz. (Only one waste tank is equipped, so this function is invalid at the moment)

    When safety tank is full, system will alarm as short buzz.

8.5 Intelligent Detection Function

Intelligent detection function for ink supply system is implemented by collecting floating switch signal with high frequency. By using concept of probability, the signal is regarded as effective if probability of floating switch signals is higher than a set value (for example, 80%). Therefore, wrong act of floating switch can affect the system's stability much less and accordingly system's anti-disturbance improves.

Chapter 9 Cleaning System

9.1 Summary

This type of cleaning method is positive pressure cleaning.
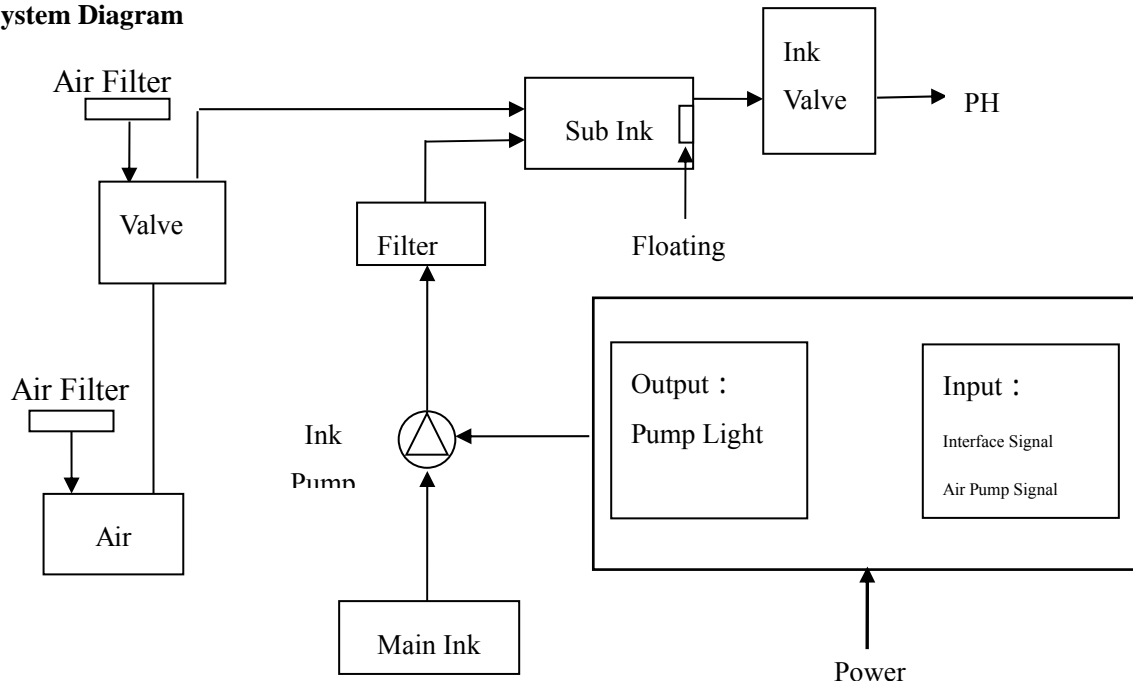
9.2 System Diagram

Figure 9-1 Cleaning System Diagram

9.3 Operation Description

9.3.1 Manuel Positive Pressure Cleaning

This function is used for print head cleaning during printing process.

1. Working Elements

Press cleaning button on ink supplying and cleaning operating frame to transmit signal to air pump, then air pump transmits air pressure through electromagnetism valve and air tank, then to sub ink tank, the air pressure will press ink into print head to clean it.

1- Cleaning Button

2- Ink Pressing Button

3- Light Switch

Figure 9-2 Ink Supplying Cleaning Buttons

2. Operation of Manual Positive Pressure Cleaning

In printing process, if there is jam, please press ONLINE button for some seconds to stop print. Then select" move to cleaning position" to move print head to cleaning location. Press pressing ink button near cleaning location to press ink, then wipe the surface of print head with cleaning stick. Finally, waiting for 5-10 seconds then select＂continue〞 in menu to continue printing.
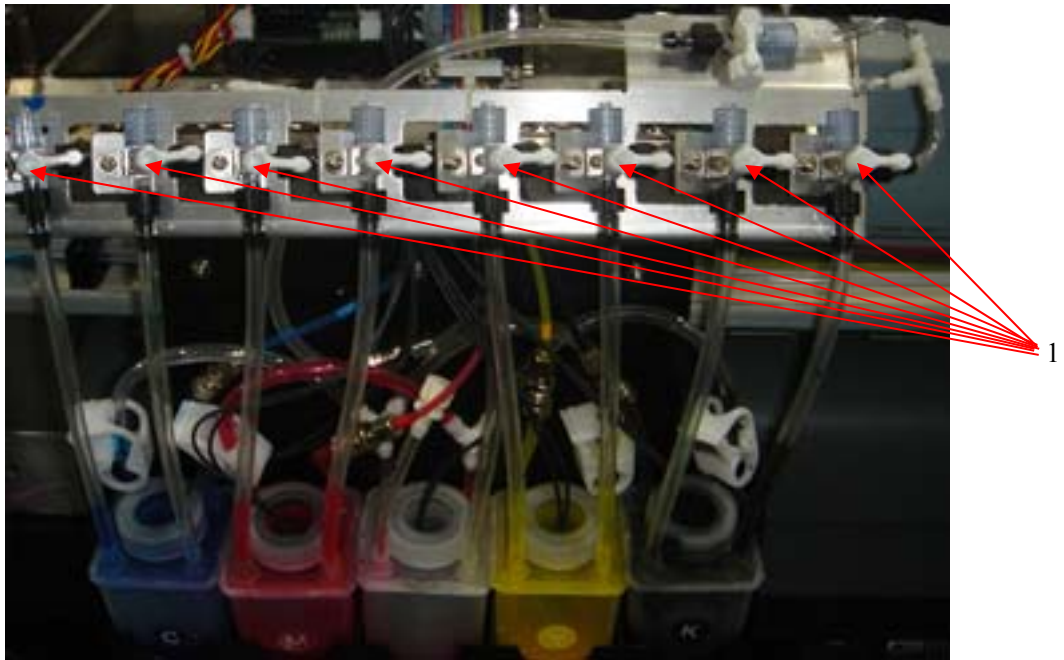
9.3.2 Flush Solution Cleaning
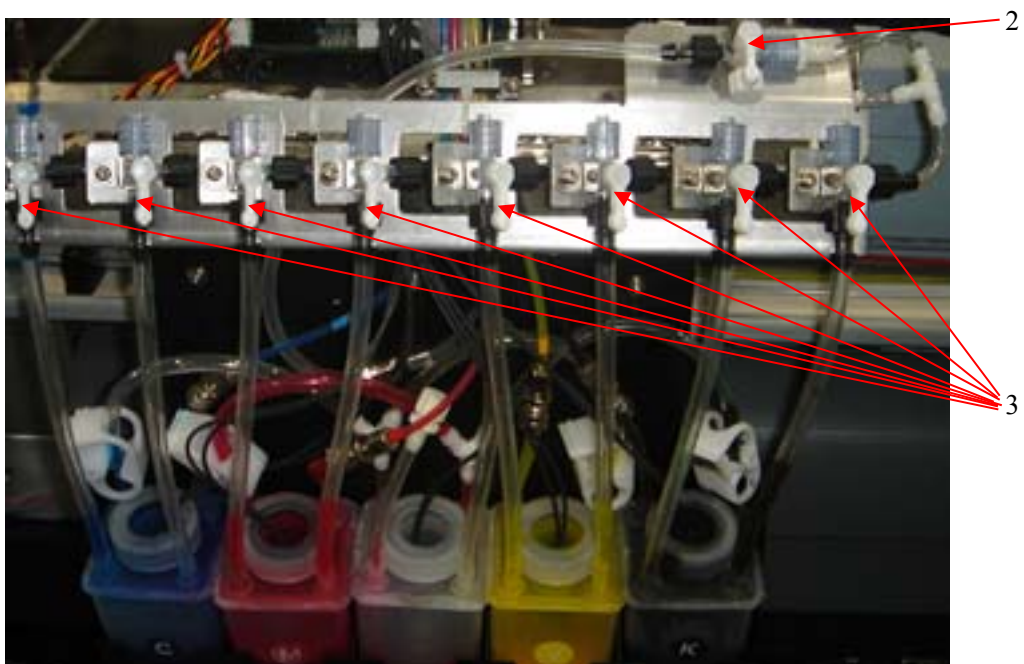

Figure 9-3 State of Three-way Valve in Printing Process

Figure 9-4 State of Three-way Valve when Using Flush Solution

1- Ink Open

2- Flush Solution Open

3- Ink Open

Ink and Flush Solution Three-way Valve

Note: For the print heads are many, normally cleaning two or three channels when use flush solution cleaning.

When the printer will leave used for a long time, please flush the print head with flush solution.

Operation in Details:

Adjust the three-way manual valve at flush solution, move print head to cleaning location

By select menu on control panel, press the "Flush Solution" button on operating frame to start cleaning pump to send flush solution into print head.

Note:

When the three-way valve is at ink adjustment, do not press "Flush Solution" button on operating frame, otherwise, the flush solution will flush away the valve.

Chapter 10 Heating System

10.1 Summary

The heating system has advanced temperature sensor, can improve the reliability of heating system. According to different media and surroundings, we have optimized and confirmed the heating temperature by several experiment. The system will adjust automatically to keep temperature constant. Customer can have satisfactory printing effect.
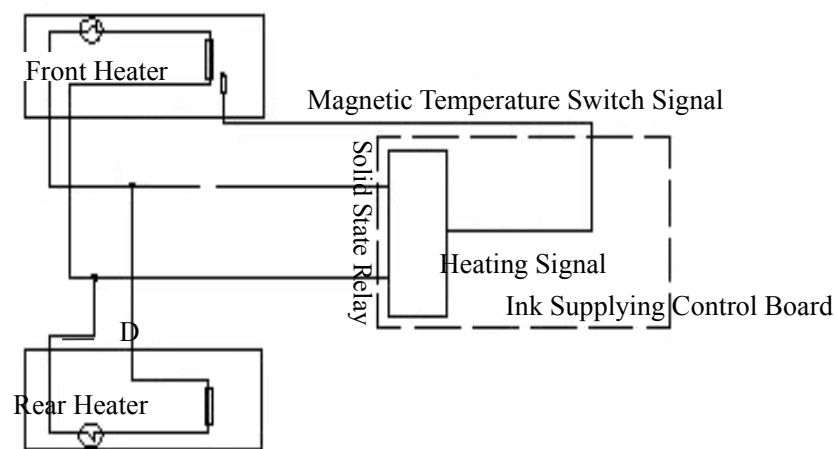
10.2 Front Heater System

Figure 10-1 Heating System Diagram

10.2.2 Function Description

1. To keep the front and rear heating boards in auto constant temperature.

2. With advanced protective functions to avoid over-heating, creepage, etc. The line will be cut off automatically if a certain line's temperature is over 65 . As soon as the temperature lowers, it will resume heating. Over heating will not occur when the entire input signal is cut off.

3. The system can work independently and can be easily transplanted. It is easy to convert input voltage from AC 110V to 220V.

4. The heating system is controlled by advanced intelligent microprocessor; it has features of heating up quickly, controlling temperature accurately and saving energy.

5. Inside heaters are used. It is easy to install, with no extra space needed and longer lifetime.

10.2.3 Working Process and Characteristics

1   Users can set the temperature of front heater by operating on LCD control panel. For there is only one sensor to detect the temperature, so users can not set or change the pre-heating temperature by operating on LCD control panel.

2   Heating power supply is independent from control power supply. Please turn on the heating power before turning on the power for the printer. Once the power is on, the system heats up automatically to set temperature and keeps the temperature at the set value. Without turning on power for printer, the heating system will not work. However, there is still AC 220V inside machine.

3   Temperature detector lies about 50 cm to the right physical printing original position. Print media should cover this region when printing.

4   After printing, make sure to turn off the two powers.

10.3 Dry System

Dry system uses blower to dry the print ink.

1- Fan

2- Fan Switch

3- Fan Power Socket

Figure 10-2 Dry System

Chapter 11 Software Operation

11.1 Installation

11.1.1   Installation of RIP Software   See the RIP User's Manual for details.

a) Insert RIP CD into computer's CD-ROM.

b) Run setup.exe.

c) Follow the instruction to finish the installation

11.1.2   Installation of printer driver

a) Insert installation CD into CD-ROM

b) Run setup.exe under directory of TRY SETUP
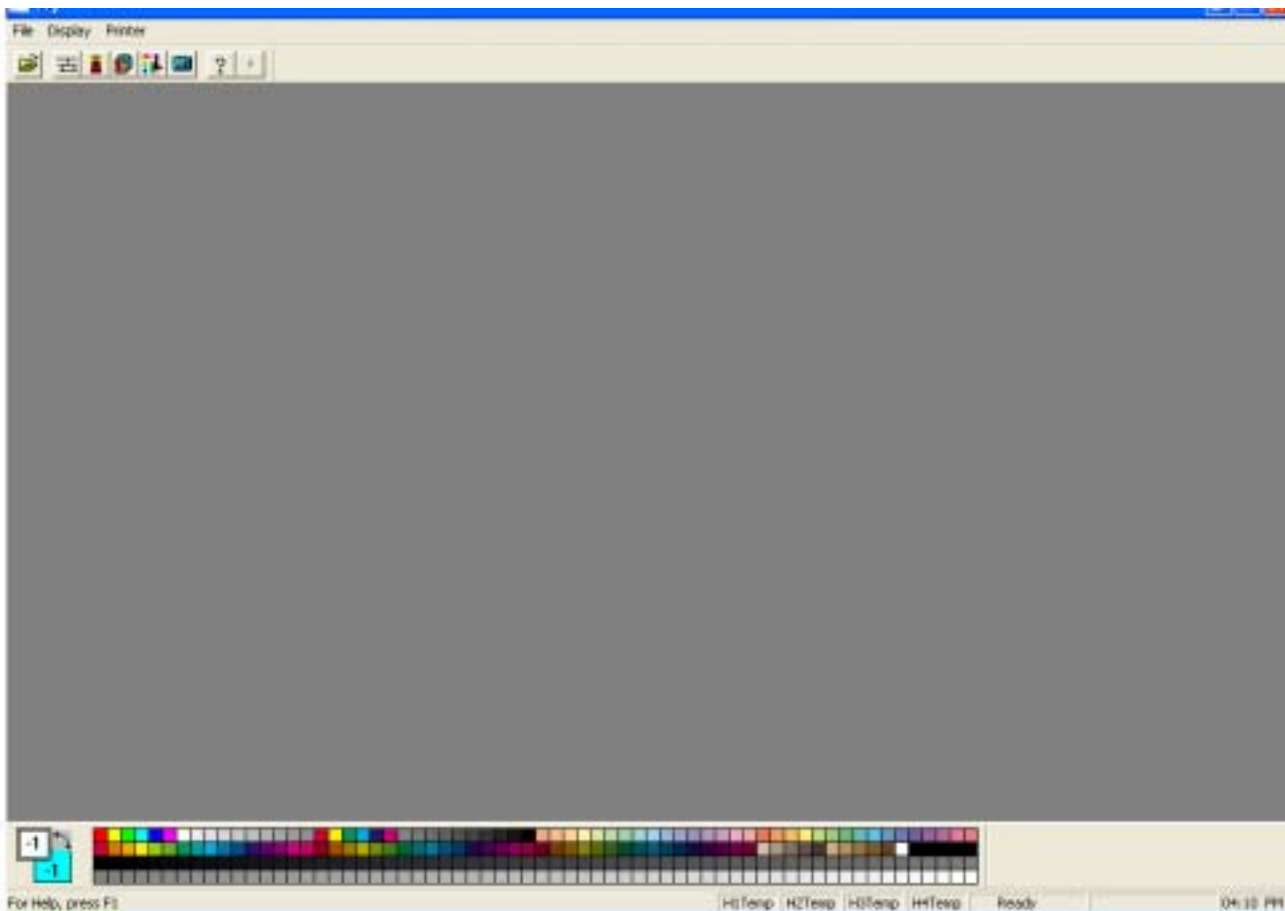
c) Follow the instruction to finish the installation

Note   Please use the default directory for the installation.

11.2 Application of Printer Driver

Note   The printer driver program is only for engineer to adjust the print head   and not necessary for normal operation.

11.2.1 Enter TRY

1. Click start\Program\Try, enter Try system.

2. Open TRY

3   First, choose the type of printer. Click "Printer" menu   choose FINA 320.

4　Then open "File" to adjust some setups.

In these menus, the most important is print setup.

11.2.2 Print Setup

This function is to set the printing parameter, print mode, unidirectional, BID and the color of ink

Note: Usually the four colors should all be selected. Only when the engineer adjusts the position of head, one certain color is chosen to modify the printing parameter.

Print Mode

There are 5 modes for choosing: Test mode, 180*360 dpi, 360*360 dpi, 360*540 dpi, 360*720 dpi.

Explanation:

Test mode: Print resolution is 180*180dpi. 180dpi of horizontal resolution and print once at feeding direction as 180dpi;

180*360 dpi: 180dpi of horizontal resolution and 180dpi print twice at feeding direction.

360*360 dpi: 360dpi of horizontal resolution print and 180dpi print twice at feeding direction.

360*540 dpi: 360dpi of horizontal resolution print and 180dpi print 3 times at feeding direction.

360*720 dpi: 360dpi of horizontal resolution print and 180dpi print 4 times at feeding direction.
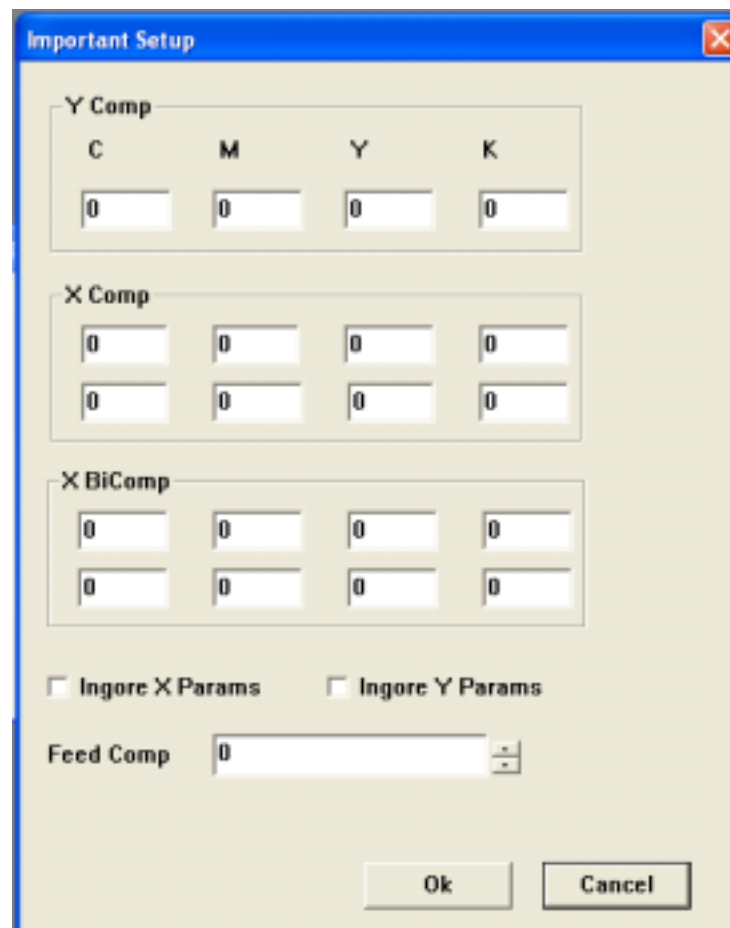
11.2.3 Printer Parameter Setup

Pressing "More", it shows warning as below:

After pressing "Yes", you can see the dialogue box:

Note:

Press "load parameter" first to read the original data before adjusting.

Meaning of this dialogue box:

1. Parameter of nozzle installation:

Adjust the head position and overlapping of four colors.

Print head driving board

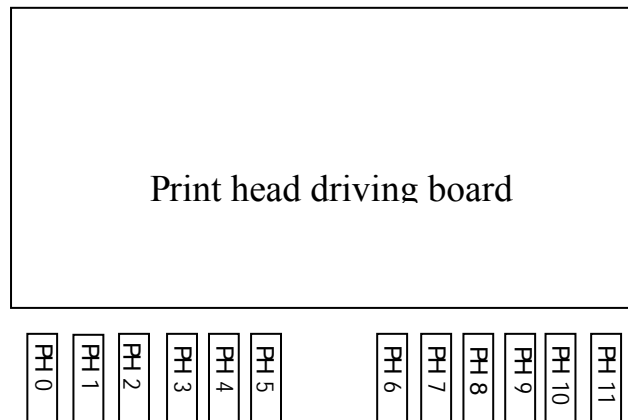PH 0 PH 1 PH 2 PH 3 PH 4 PH 5   PH 6 PH 7 PH 8 PH 9 PH 10 PH 11

Chart 11-6 Print head arrangement

Look head C1 as datum mark, its horizontal and vertical value is 0. The value is A (0, 0).

a.   The vertical gap between head C2 and head C1 is ensured by mechanical precision. The value of horizontal gap is B. (In above Chart is 255)

b.   The vertical gap between head C3 and head C1 is ensured by mechanical precision. The value of horizontal gap is C. (In above Chart is 510)

c.   The vertical gap between head M1 and head C1 is 0 in above Chart. The value of horizontal gap is D. (In above Chart is 765)

d.   The vertical gap between head M2 and head C1 is ensured by mechanical precision. The value of horizontal gap is E. (In above Chart is 1020)

e.   The vertical gap between head M3 and head C1 is ensured by mechanical precision. The value of horizontal gap is F. (In above Chart is 1276)

f.   The vertical gap between head Y1 and head C1 is 0 in above Chart. The value of horizontal gap is G. (In above Chart is 1531)

g.   The vertical gap between head Y2 and head C1 is ensured by mechanical precision. The value of horizontal gap is H. (In above Chart is 1786)

h.   The vertical gap between head Y3 and head C1 is ensured by mechanical precision. The value of horizontal gap is I. (In above Chart is 2041)

i.   The vertical gap between head K1 and head C1 is 5 in above Chart. The value of horizontal gap is J. (In above Chart is 2296)

j.   The vertical gap between head K2 and head C1 is ensured by mechanical precision. The value of horizontal gap is K. (In above Chart is 2551)

k.   The vertical gap between head K3 and head C1 is ensured by mechanical precision. The value of horizontal gap is L. (In above Chart is 2806)

2. BID Rectangle: To adjust the BID rectangle tolerance value. Generally, modify BID rectangle value first in *BID adjust*. If the difference is not big, adjust here.

3. Ignore horizontal and vertical deviation: No adjustment. Only for inspect printer status.

4. Feed Compensate: Used to adjust the feeding on the Y direction. The amount of feeding is different with different Pass.

11.3 Equipment Adjustment

Steps

● **Enter TRY**

● **Print head adjustment**

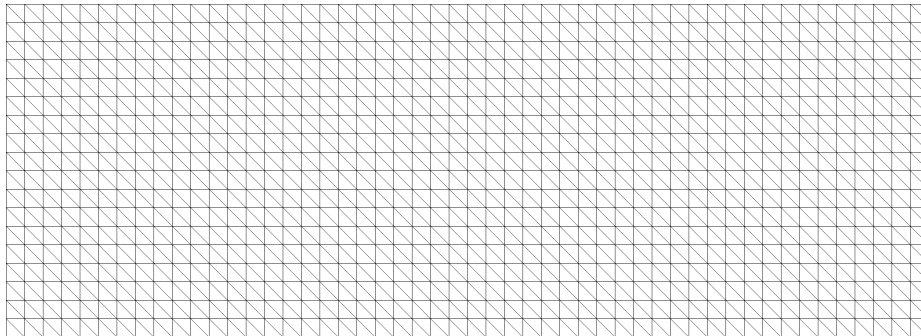Select Open/File, load the file *C:\try\SmallGrid126.group*

Chart 11-7 Small Grid 126. group

In "Print setting", select 200 1Pass single direction color "C". Press printing [▶], and print color "C". The line should be vertical on the vertical direction. If not, adjust the angle of head.

Feeding direction

Head moving direction

Start position

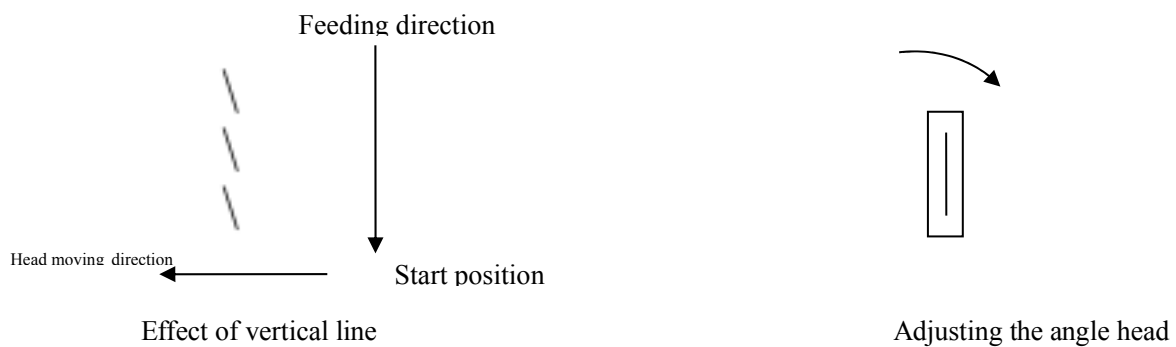Effect of vertical line

Adjusting the angle head

Chart 11-8 Adjust head installation angle

After the line is straight, check the accordance of lines printed by C1 and C2 heads. If not, adjust the C2 head backward or forward.

After adjusting the head of color "C", do the same adjustment to the other heads. During adjustment, do not change "Printer parameter setting".

11.3.3 Adjustment of Step Correction

Select Open/File, load the file *C:\try\SmallGrid126.gro.* In "Print setup", select test mode　single direction

color "C". Press printing key![printing key], and print with color "C". Adjust the value in *Print setup \ Important setup*

\ Feed Compensate" until the grid becomes perfect, and then save the value. If there is space in printout, reduce the value; if overlap, add.

The rest passes can be adjusted in the same way.

Step corrections are different according to different printing modes, so each printing mode should be corrected.

11.3.4 Adjustment of Four Colors Overlapping

Take "C" for datum line and adjust another color together with "C". Adjust M, Y, K one by one and print at test mode, single direction. See below:
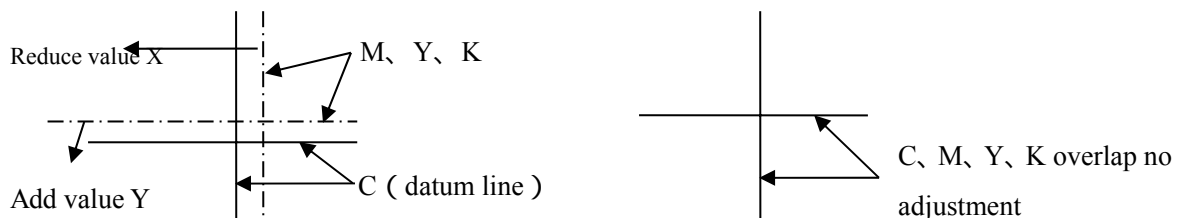

Chart 11-9 4 colors overlapping adjustment

Following above guide to adjust "Head nozzle installation parameter" in "Printer parameter setting", and input values in the blank behind the distance coefficient.

Note:

Usually, printer's horizontal and vertical distance are finished adjusting when deliver. User needn't adjust.
Only after long transportation and CMYK cannot overlap, user can go to this function to adjust.

11.3.5 Adjustment of Bidirectional Printing

Follow below steps:

1. In the control panel, set a common value for *Adjustment\Speed* ,e.g. highest 11.
2. Press ONLINE.
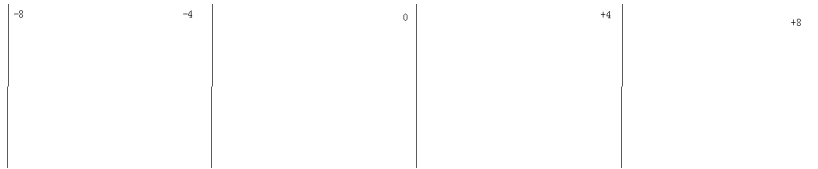3. Use 33VC+ software to open the adjustment file *BID_test.group*.

Chart 11-10 BID_test.group

4. Press printing key [▶] to print.

5. Check the printout whether every line is straight. Then input the value in *Adjustment \ BID adjust.*

6. If some of them are straight while others not, you can input the value in dialog "Important Setup\BiComp" for each print head.

    Note: Different speed has its own BID rectangle value.

11.4 Basic operation of RIP

Refer to　RIP Software manual　. Please close the printer driver software before opening RIP.

Note: Do not open TRY and RIP software synchronously, for avoiding the interference.

Chapter 12 Maintenance and Correction

12.1 Daily Maintenance

Daily maintenance is very important for printer, the description in details as below:

Maintenance after each printing

- Erasure dried ink from print head surface with flush solution
- Restore the jammed nozzles before next printing.

Each 8 hours

- Oil the print head rail and clean the dust from it once each 8 hours.

Daily work

- Check waste tank and clean it if necessary.
- Check the waste ink groove on the cleaning position and empty it if necessary.
- Fill flush solution in print head after printing, and add print head frame.
- Clean the cloth-in roller and pressing wheel with PM acetate.
- Do normal clean for the printer everyday.

Weekly work

- Check and clean heater.
- Check system route if there is any loose.

Monthly work

- Clean the floater switches in sub ink tanks.
- Clean the filters of ink and flush solution.
- Check valves of positive pressure cleaning if there is any leak of ink. Clean them with flush solution if necessary.
- Check the tension of strap.
- Clean dust in power tank.

yearly work

- Replace ink filters.
- Blower the dust on power tank with compress air.
- Clean the main ink tank.
- Clean the ink supply routes.
- Clean the liquid pumps for ink supply.
- Oil the gears of feeding and take-up motors.
- Check whole circuit if there is any loosen or broken. Repair it in time if necessary.
- Check if there is any tear on the pipe and wire in the towline set and replace it if necessary.

12.2 Maintenance of print head

Always keep the surface of print head wet with flush solution. If the printer is left unused, the print head must be dropped with flush solution and covered with fresh-keeping polyethylene films to keep it wet.

1. Moisturizing of print head

If the printer is left unused for 2 day and above, do as below to keep the print head wet

a) Dip the unwoven fabric with flush solution.

b) Cover the unwoven fabric on the surface of print head.

c) Wrap the print head unit with fresh-keeping polyethylene film.

d) Cover the wet-keeping frame the print head.

2. Unload print head:

as follows when you are going to unload print head

a) Pump out ink from print head and clean it with flush solution.

b) Power off the printer and plug out power line from socket.

c) Check static on the machine with a multimeter and release the static if necessary.

d) Loosen the Up, Left and Right screws, and take out the right screw.

e) Take out the print head and put it on an unwoven fabric soaked with flush solution.

3. Assemble print head:

a) Power off the printer and plug out power line from socket.

b) Check static on the machine with a multimeter and release the static if necessary.

c) Please refer to chapter 3 to get print head assembling information in details.

d) Connect the data cable to print head connect board one by one.

e) Check the connection of data cables to eliminate wrong connection.

NOTE:

If the data cable is connected wrong, the print heads the print head will be damaged when power on.

12.3 Maintenance for ink supply system

The ink supply system is very important. Maintenance for ink supply system is also very important. The ink supply system includes main ink tank system and assistant ink tank system with filters to separate the ink from the open air. So cleanness of environment is primary condition to place the printer.

1. Main ink tank system

Main ink tank system consists of main ink tanks, filters, liquid pumps and waste ink tanks. Maintenance includes

a) Clean the main ink tanks, especially air filters, monthly

b) Clean or replace filters of ink and flush solution per half year

c) Clean around the main ink tank system weekly

2. Assistant ink tank system

Assistant ink tank system consists of assistant ink tanks, safety tanks. Ink drops get together on the floaters in assistant ink tanks and dry to shape small balls on the top of sensors, which will impact the sensitivity of sensors. To clean the floater, do as follows

a) Pump out ink from ink pipes by operating on clean control panel.

b) Unload the 4 assistant ink tanks from the back of print head unit.

c) Loosen and take out bolts from the cover boards of assistant ink tanks and then take the cover boards and floaters.

d) Clean the floaters and assistant ink tanks with unwoven fabric and sponge soaked with flush solution. Ensure the floater switch move smoothly and then dry floaters and assistant ink tanks.

e) Reload floaters in assistant ink tanks and assemble assistant ink tanks on the back of print head unit.

The safety tank also needs cleanness timely. The method is same as assistant ink tank except for the 2 air filters in addition

Warning:

Do not let electromagnetism valve that solution floats through connect with air, otherwise the ink in it will be very hard to clean and will affect the normal working of printer.

12.4 Maintenance for other parts

1. Lubrication for print head rail

As normal regulation, user should add lubricating oil to print head rail daily and never use compound oils.

1) Add a few lubricating oil on a cotton fabric and move the print head to original position. Brush the print head rail with the cotton fabric to create an average oil layer on the rail.

2) Power the printer and move the print head unit left and right repeatedly

3) Erase the oil smear on the both ends of the rail. Erase the oil drops on the rail again before printer running.

2. Feeding Roller

Oil the gears of media feeding roller monthly to avoid rust.

12.5 Warning and Correction of Main Board

Warning

Warn1   UV lamp is NOT ready.

Warn2   Pressing pole is NOT pressed down.

Warn3   The system is supplying ink.

Error

When one of the errors listed below occurs during printing, the printer will run normally but give alarm for warning.

Err5   Ink refill overtime

Err6   The safety bottle is full

Err7   For solvent based printer   The waste ink bottle is full

Err8   Null

Errors listed below indicate the detail for further check when self test fails.

Err9   Y raster count direction differs from motion direction

Analysis and Settlements:

1) The lines a and b of Y raster sensor connect inverted;

Settlement: The lines a and b connect correctly again.

2) The motor power line and rotary raster line insert inverted;

Settlement: the power line and rotary raster line insert correctly again.

Err10　Y raster signal is NOT detected

Analysis and Settlements:

1) Raster sensor is broken;

Settlement: Replace a new raster sensor.

2) Raster sensor is unconnected;

Settlement: Connect raster sensor correctly.

Err11　Y raster error too big

Analysis and Settlements:

1) There is error between the old version motor board and the new version main board;

Settlement: Replace a new version motor board.

2) There is disturbance come from power supply board and group line;

Settlement: If there is error in element of power supply board, the power supply board must be replaced; if the

ground line is not connected well, it must be connected correctly.

3) There is touching between raster and sensor;

Settlement: Adjust the position between raster and sensor.

Err12　Reverse count abnormal

Analysis and Settlements:

1) There is disturbance come from power supply board;

Settlement: If there is error in element of power supply board, the power supply board must be replaced.
2) There is touching between raster and sensor;

Settlement: Adjust the position between raster and sensor.

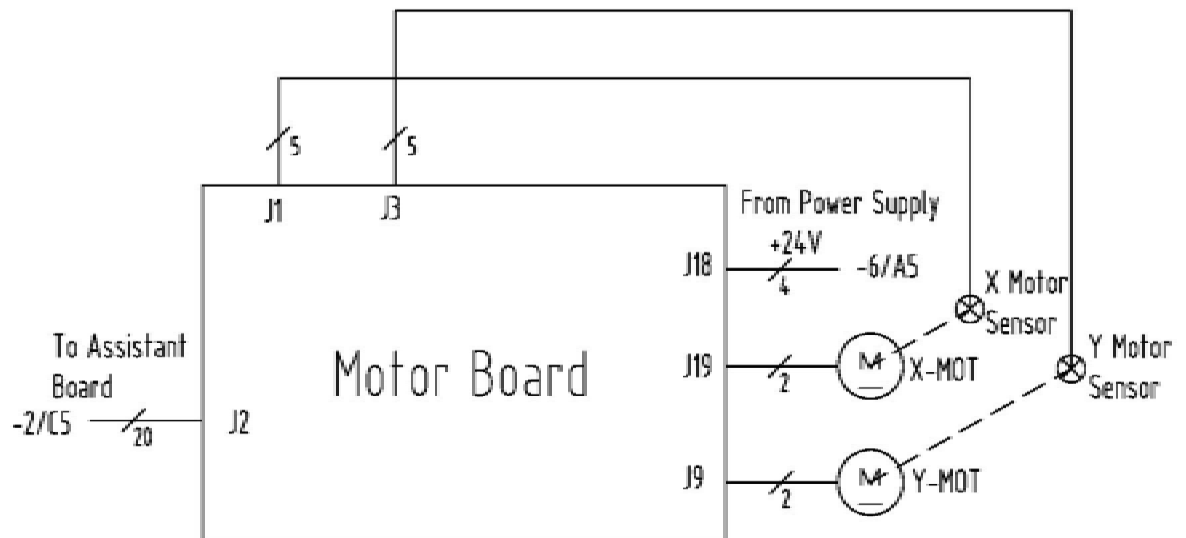Err13　Self test for main board failed

Analysis and Settlements:

It shows anyone between Err9 and Err12. Please deal with the error as the settlements from Err9 to Err12.
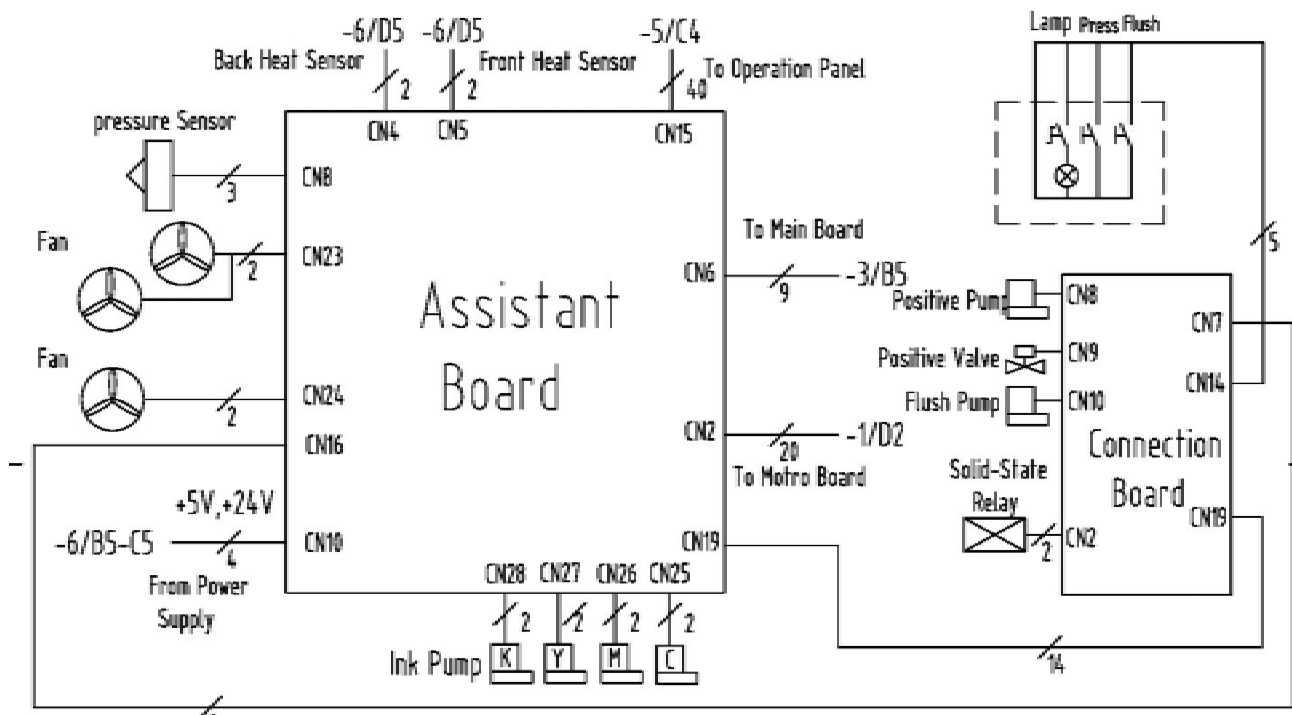
Err14　Version of assistant board NOT matches main board

Analysis and Settlements:
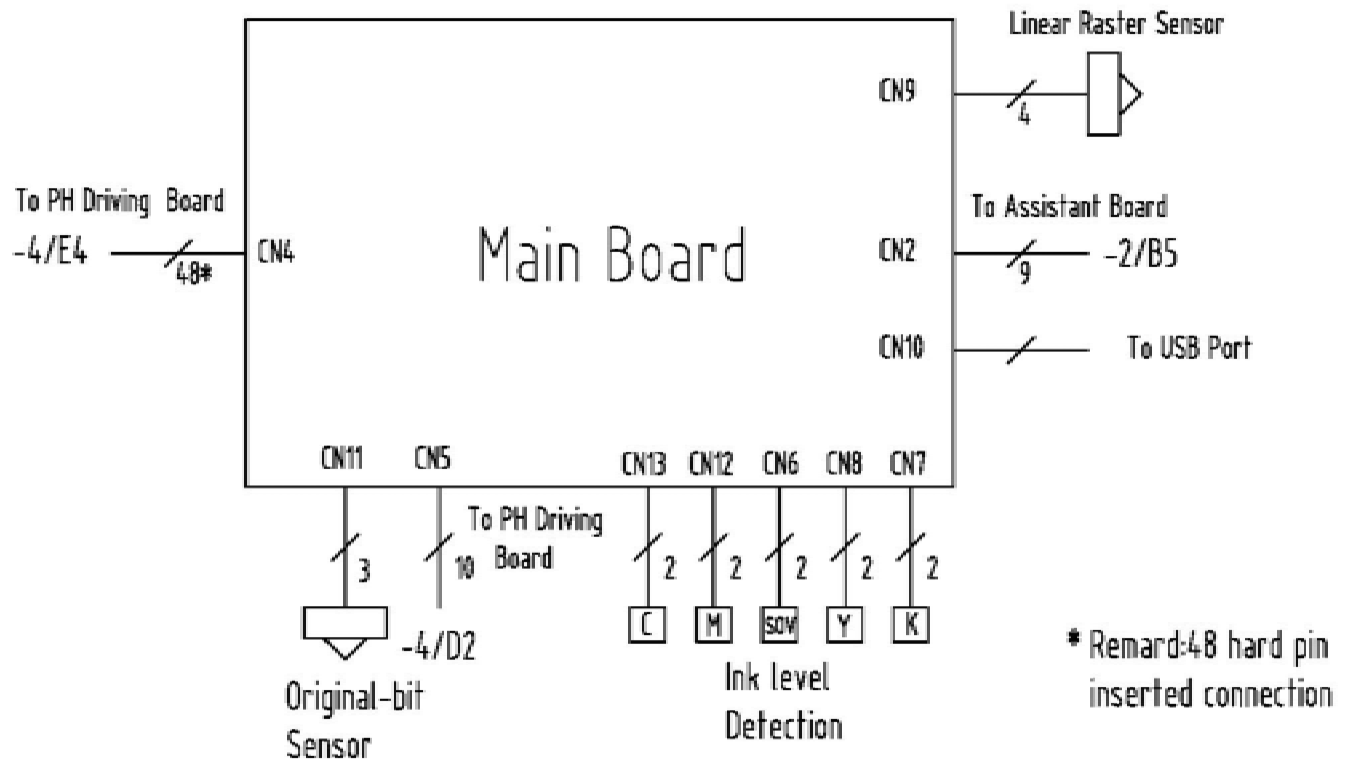
Replace a new version assistant board.
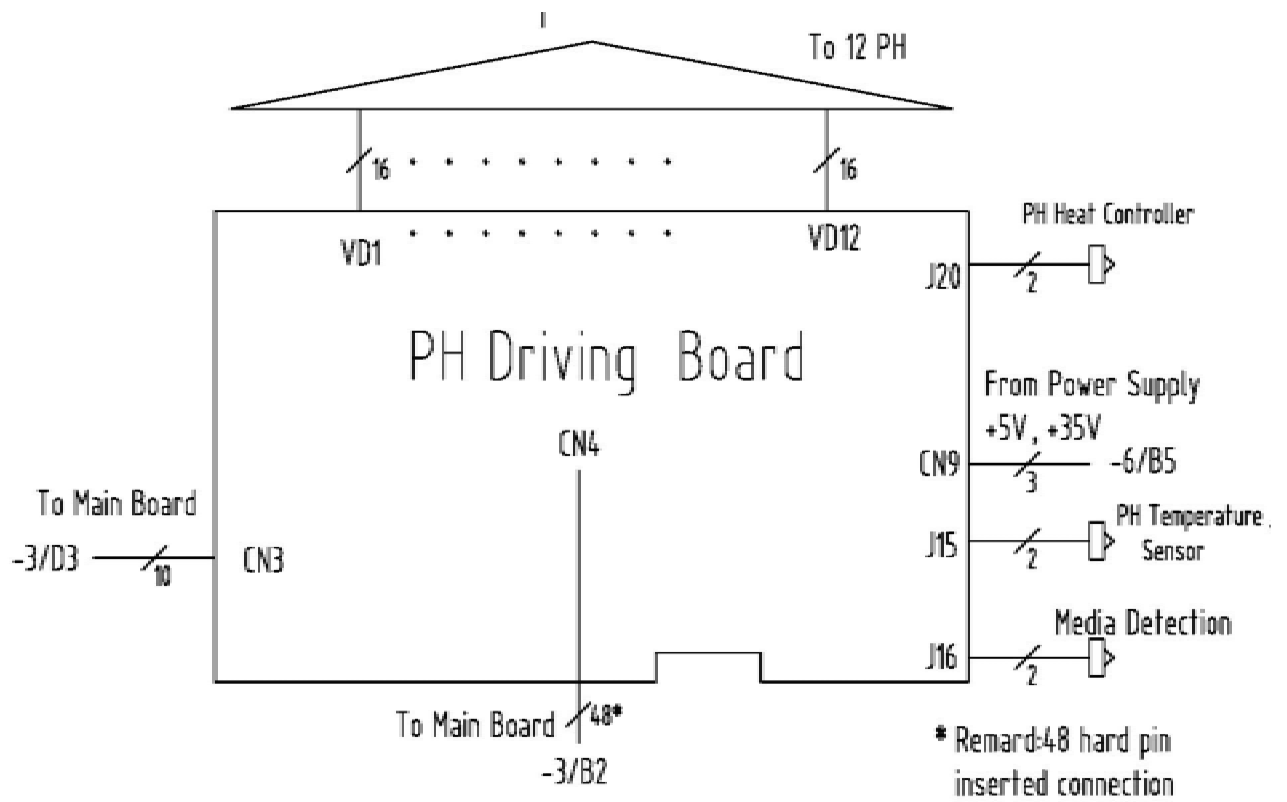
Appendix 1 Motor Board Diagram
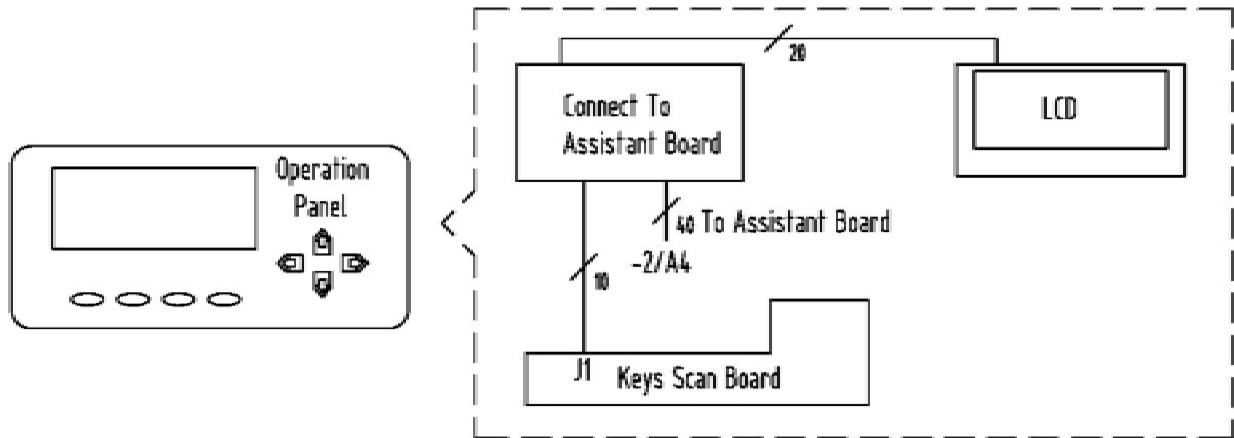
Appendix 2 Assistant Board Diagram
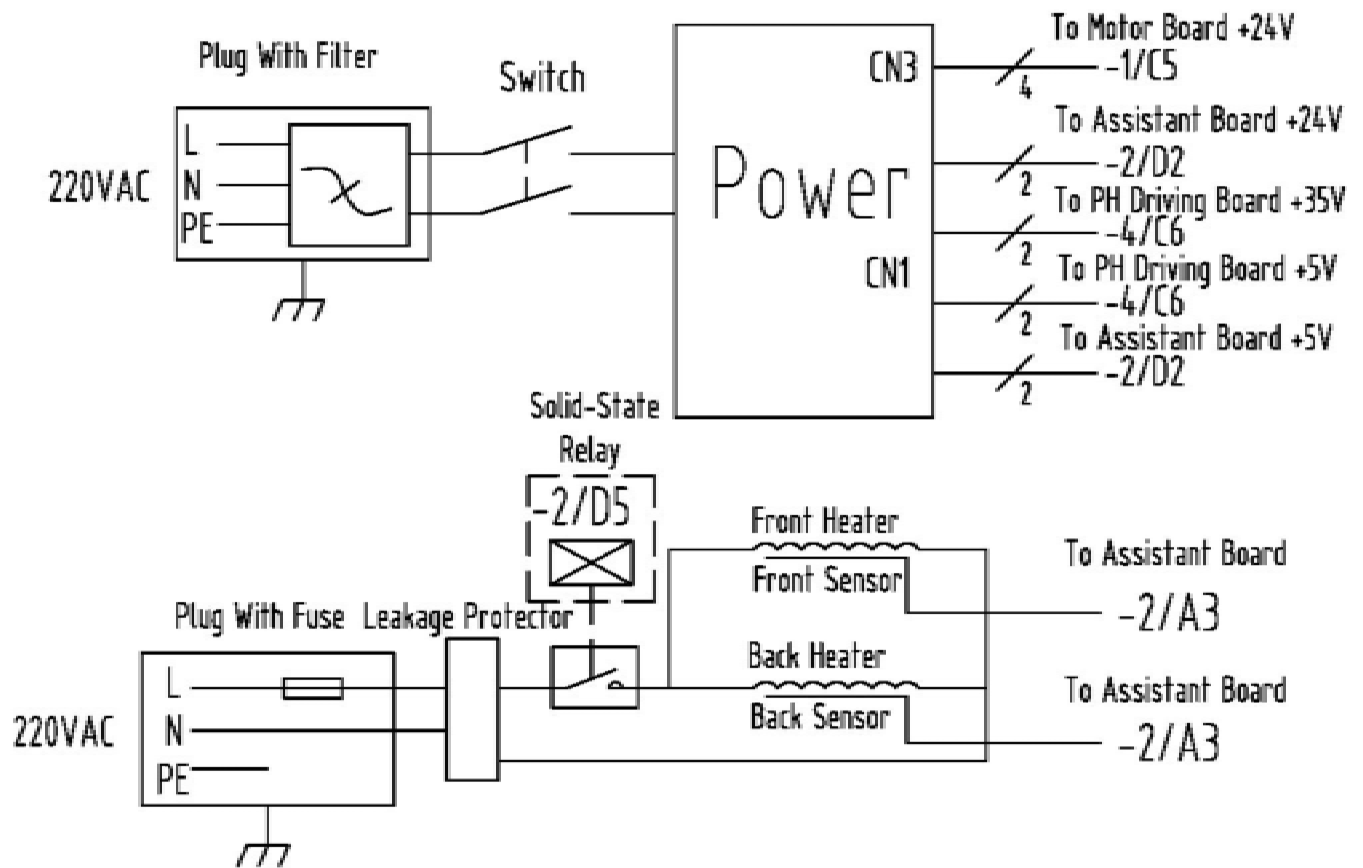
Appendix 3 Main Board Diagram

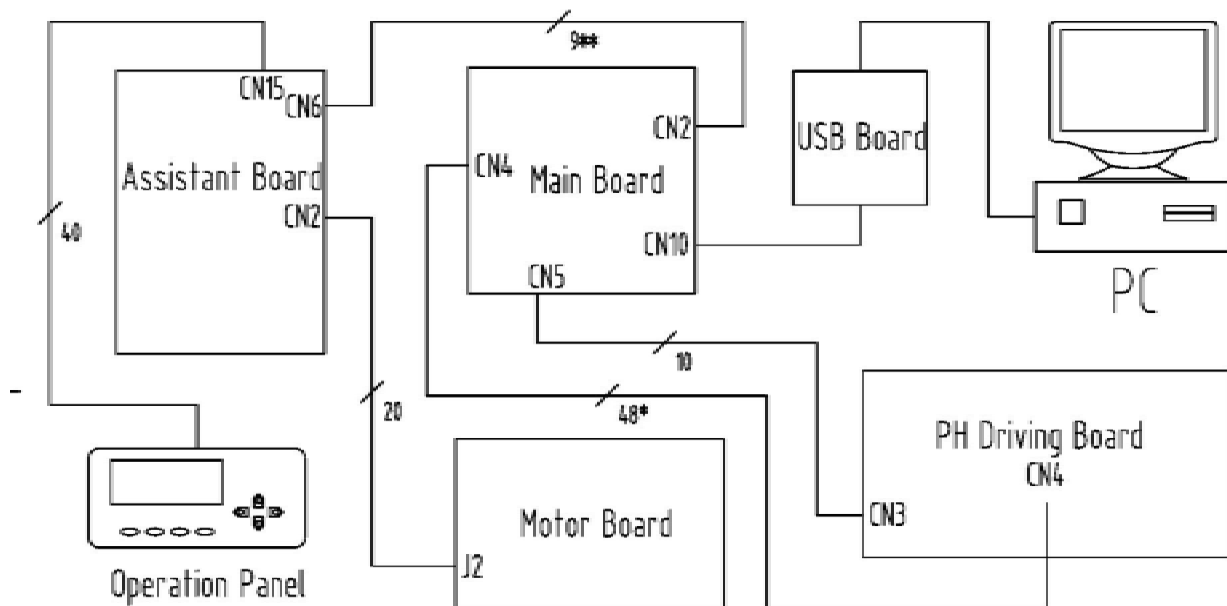## Appendix 4 PH Driving Board Diagram

Appendix 5 Operation Panel Diagram

Appendix 6 Power Supply Diagram

Appendix 7 Boards Connection Diagram


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*  Remark:The two boards connected
with  3×16 hard  conncetor,the PH Driving
Board is on the top.
 **Remark:DB9 Connector
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